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ABSTRACT

A study was conducted to examine why black youth unemployment has increased and participation rates decreased. The study was conducted in three parts. The first employs 1960 and 1970 census data to examine the impact of local labor market structure and changes in the structure upon the employment growth of black and white youth. The second part uses data on individuals from the National Longitudinal Survey of Young Men to examine the determinants of spells of unemployment and the duration of those spells. The final part of the study employs a variety of sources to determine whether there is any evidence that racial differences in aspirations or behavior can explain the employment differential. Among the findings of the study was that black employment is more sensitive than that of whites to the industrial composition of the labor market and to competition from adult women. The analysis of individuals found that racial differences in background characteristics can account for only half of the differential in unemployment experience. No evidence is found of important racial differences in aspirations or behavior. (LRA)

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THE CAUSES OF THE WORSENING EMPLOYMENT SITUATION OF BLACK YOUTH

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EXECUTIVE SUMMARY

of

The Causes of the Worsening Employment Situation of Black Youth

by

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Objective

The purpose of this study was to examine why black youth unemployment has increased and participation rates decreased. Of particular interest was the impact of changes in local industrial structure (industrial composition, the suburbanization of jobs, and the rising participation rates of adult women); the continued role of racial discrimination; and background and behavioral differences between black and white youth.

Methodology

The study falls into three parts. The first employs 1960 and 1970 Census SMSA data to examine the impact of local labor market structure and changes in the structure upon the employment growth of black and white youth. The second part uses data on induviduals from the National Longitudinal Survey of Young Men to examine the determinants of spells of unemployment (both quits and layoffs) and the duration of those spells. The third section employs a variety of sources to determine whether there is any evidence that racial differences in aspirations or behavior can explain the employment differential.

Findings

The study finds that black youth employment is more sensitive than that of whites to the industrial composition of the labor market and to competition from adult women. The suburbanization of jobs is not an important factor. The analysis of individuals finds that racial differences in background characteristics (ability, education, etc.) can account for only half of the differential in unemployment experience. No evidence is found of important racial differences in aspirations or behavior.

POLICY IMPLICATIONS

Tight labor markets and strong affirmative action programs would greatly improve the situation of black relative to white youth.

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Regardless of how we evaluate the importance of youth unemployment in general it is impossible to minimize the unemployment situation of black youth. Their unemployment rates are astronomical. While youth unemployment as a general phenomenon is a consequence of the marginal nature of the youth labor force, there is clearly something else at work in the case of blacks. This report will attempt to discover that something.

In the first section I will lay out the basic facts concerning racial differentials. The problem, as we will see, is not only that black unemployment is higher (and labor force participation lower) than that of whites, but also that the trend over time has worsened. This worsening raises an important paradox since by other measures of labor market success the situation of young blacks has improved in the recent decade.

Having established the facts I will examine various hypotheses which might explain the situation. Some of these hypotheses emphasize behavioral and demographic differences between young blacks and whites, others seek to identify patterns of discrimination, and others single out changes in the structural conditions in local labor markets. I will then attempt to distinguish among these theories and to arrive at a convicing explanation. In doing so I will employ both data on individuals, drawn from the National Longitudinal Survey of Young Men (NLS), and also census data on the characteristics of SMSA's.

THE FACTS AND THE PARADOX

From the mid-1960's onward the labor market situation of young blacks — as measured by income, wages, educational attainment, and occupational status — considerably improved. Much of the important work of documenting these improvements has been done by Richard Freeman and Tables I and II reproduce some of his results. In Table I we observe income trends controlled for age, education, and sex. Looking at the first row it is apparent that the relative situation of

18-24 year old black men and women has imporoved over time. In 1959 the ratio of black to white mean incomes for males was .67 and for women was .55. By 1969 the ratios were .85 and .95. A closer examination of the table shows that the greatest improvement occurred for the best educated blacks, the ratios improving considerably more for college graduates than for those with only a grade school education and also more (in the case of men) than those with a high school degree.

This improving trend continued into the 1970's. This is important since it demonstrates that the improvements were not simply the result of tight labor markets in the 1960's. Table II, also taken from Freeman's work, contains information both on earnings and on occupational achievement. As is apparent, both with respect to occupation and earnings the situation of blacks improved in the 1964-75 period.

It is important to recognize that these results do not imply that the situation, even by the measures we have used, of black and white youth, has been equalized. Important gaps remain, but there is a clear improving trend. However, it is possible to take the argument further than this. There is still a racial gap in earnings between young blacks and whites. In 1970 in the NLS data out of school black men between the ages of 18 and 28 average $2.73 an hour while whites average $3.79. Whites thus earn 38% more per hour than blacks. However, many economists find it useful in looking at this gap to distinguish between the fraction of it which is caused by differences in the personal characteristics which the youth bring to the labor market and, on the other hand, the portion attributable to differences in how the labor market values those characteristics. This is a useful distinction because it helps to pinpoint the sources of the wage differential. To make this distinction concrete one can imagine two polar situations. In the years prior to the mid 1960's blacks with college education earned less than whites with only a grade school background.

TABLE I

Comparison of Black and White Economic Positions and Average Annual Changes in Ratios[1]

	Ratio of Black (Nonwhite) to White Position		Annual Change in Ratio	
	1950	1975	1950-1964	1964-1975
Male				
Median wage and salary	.50[2]	.73	0.6[4]	1.2
Median wage and salary, year-round full-time workers only	.64[3]	.77	0.1[5]	1.0
Median "usual weekly earnings"	—	.78	—	1.0[6]
Index of occupational position	.76	.88	0.3[5]	0.7
Relative penetration				
Professional, technical, and kindred	.39	.65	0.4[5]	1.8
Management	.22	.41	0.0	1.7
Crafts	.41	.71	1.2	1.2
Female				
Median wage and salary	.40[2]	.57	1.8[4]	3.5
Median wage and salary, year-round, full-time workers only	.57[3]	.99	1.3[5]	2.3
Median "usual weekly earnings"	—	.94	—	2.0[6]
Index of occupational position	.49	.87	1.4	1.6
Relative penetration				
Professional, technical, and kindred	.47	.83	0.9	2.1
Clerical	.15	.69	1.3	3.3

[1] Source: Calculated from Bureau of Census, *Current Population Survey*, and *Consumer Income Reports*, and from Department of Labor, *Handbook of Labor Statistics* and *Employment and Earnings*.
[2] Refers to the year 1949.
[3] Refers to the year 1955.
[4] Refers to the period 1949-1964.
[5] Refers to the period 1955-1964.
[6] Refers to the period 1967-1975.

Source: Richard B. Freeman, "Black Economic Progress Since 1964," The Public Interest, No. 52 (Summer, 1978)

TABLE II

Average Nonwhite Income as Percentage of Average Income, by Age, Education, and Sex, 1949, 1959, and 1969

Education and age	Male				Female		
	1949, using median	1959		1969, using mean	1949, using median	1959, using median	1969, using mean
		Using median	Using mean[a]				
All levels of education							
18-24	70	70	67	85	46	55	92
25-34	59	61	61	70	56	70	95
35-44	55	59	57	64	55	65	91
45-54	54	55	52	58	49	46	76
55-64	49	52	51	54	49	52	69
Grade school graduates							
18-24	74	70	71	72	62	78	90
25-34	73	68	71	74	72	72	93
35-44	67	72	73	72	68	72	86
45-54	70	71	70	74	64	61	81
55-64	69	68	69	73	73	68	77
High school graduates							
18-24	74	68	73	87	52	57	95
25-34	72	70	69	76	67	78	103
35-44	67	72	71	71	70	84	102
45-54	63	68	62	70	62	68	92
55-64	63	67	57	66	66	61	80
College graduates, 4 years or more							
18-24	81	76	80	98	90	91	97
25-34	64	68	67	78	93	107	114
35-44	59	62	59	71	94	109	118
45-54	56	58	49	63	85	91	106
55-64	52	56	45	57	81	82	91

[illegible]: 1949, 1959, same as Table 2; 1969, *U.S. Census of Population: 1970, Detailed Characteristics*, [illegible] 249.

a. Since median earnings in 1969 were not available, mean earnings are shown. This results in a small bias [illegible] nonwhites in 1969.

Source: Richard B. Freeman, "Changes in the Labor Market for Black Americans, 1948-72," Brookings Papers on Economic Activity, 1973, No. 1, p.80

Clearly the source of the racial gap in earnings was overwhelmingly due to differences in how the labor market treated comparable blacks and whites. Today some economists argue that the situation is the opposite -- blacks with higher education earn more than similarly educated whites. If this is true then the existing racial gap in earnings is due to differences in the average characteristics (endowments) that the two groups bring to the labor market.

A useful way to test the relative importance of these two sources of the racial differential is to estimate an earnings regression and then to decompose the racial gap in the dependent variable into differences attributable to the coefficients and differences attributable to the mean values of the variables. The coefficients represent labor market treatment and the mean values represent endowments. Imagine that the following (too simple) regression is estimated separately for blacks and for whites.

$W = B_0 + B_1$ ED $+ B_2$ TRN $+ B_3$ TENURE $+ e$ where W is hourly wages, TRN is months of vocational training, TENURE is years on the job, and e is an error term. Then the racial differential in earnings $(W_W - W_B)$ can be decomposed as follows:

$$(W_W - W_B) = (B_0^W - B_0^B) + \Sigma\chi^B(\beta^W - \beta^B) + \Sigma\beta^W(\bar{\chi}^W - \bar{\chi}^B)$$

The first term on the right side is the portion of the racial gap attributable to differences in the constant terms. This represents differences in treatment which is unexplained by the particular variables used in the regression. The second term also represents differences in treatment, in this case it tells us how much of the gap is due to the differences in the black and white coefficients. The third term tells us how much of the gap is due to differences in the racial means of the variables (i.e. differences in endowments).

Table III contains estimates of earnings equations for blacks and whites and Table IV presents the results of the decomposition. If we look at the coefficients and mean values for the education variable the distinction between endowments and treatment is clear. On the one hand blacks receive a lower return to

TABLE III

WAGE EQUATIONS
(Standard errors)

	BLACKS	MEANS	WHITES	MEANS
KWW	.008 (.002)	27.26	.010 (.001)	36.40
ED	.039 (.010)	10.59	.051 (.006)	12.31
UNION	.329 (.040)	.34	.216 (.024)	.308
TRAIN	.0008 (.0007)	8.25	-.0006 (.0003)	14.46
TENURE	.021 (.021)	2.03	.073 (.017)	2.52
$TENURE^2$	-.001 (.002)	7.41	-.005 (.001)	10.85
EXPER	-.0006 (.011)	4.08	.018 (.006)	2.65
$EXPER^2$	.0004 (.0009)	32.18	-.0007 (.0006)	19.52
HEALTH	-.098 (.090)	.044	-.093 (.042)	.076
MAR	.075 (.038)	.625	.120 (.026)	.728
CONSTANT	4.678		4.530	
$\bar{R}^2$	.373		.286	

NOTE: The dependent variable is the log of 1970 hour earnings in cents. The sample is limited to youth out of school between 1969 and 1970. The independent variables are defined as follows: KWW - Score on the knowledge of the world of work test; ED - Years of school completed; UNION - "1" if a

TABLE III (Continued)

union member, "0" otherwise; TRAIN - Months of training completed elsewhere than a regular school; TENURE - Years on the current job; EXPER - Years since left school minus TENURE; HEALTH - "1" if health limits work, "0" otherwise; MAR - "1" if married with a spouse present, "0" otherwise. A chow test rejects the hypotheses that the two equations are equal with F = 4.96 (10,1208).

TABLE IV

DECOMPOSITION OF RACIAL EARNINGS DIFFERENTIALS

	TOTAL AMOUNT	ATTRIBUTABLE TO TREATMENT $\bar{X}^b(B_W - B_B)$	ATTRIBUTABLE TO ENDOWMENTS $B^W(\bar{X}^W - \bar{X}^b)$
KWW	.172	.054	.118
ED	.214	.127	.087
UNION	-.044	-.038	-.006
TRAIN	-.014	-.011	-.003
TENURE	.140	.105	.035
	.094		
$TENURE^2$	-.046	-.029	-.017
EXPER	.050	.075	-.025
	.023		
$EXPER^2$	-.027	-.035	.008
HEALTH	-.0001	.0002	-.002
MAR	.040	.028	.012
		.276	.207
$B_W^O - B_B^O$		-.148	
		.128	

NOTE: A negative sign is favorable to Blacks.

schooling than do whites (.03 as opposed to .05). On the other hand blacks also have on average fewer years of schooling (10.5 as opposed to 12.3). The decomposition will help us sort through these different effects.

It is clear from the decomposition (Table IV) that the three most important sources of the overall gap are KWW, ED, and TENURE. In all three cases blacks suffer both because of lower endowments and because of lower rates of return. Overall, the results show that more of the racial gap is due to differences in endowment than in treatment. If blacks kept the same equation structure (treatment) but their endowments were made equal to whites their earnings would be 23% higher ($e^{.207}$). If they kept the same endowments but they faced the white equation structure their earnings would be 14% higher ($e^{.128}$). If both treatment and endorsement changed to that of whites the racial gap would be wiped out.[1]

There are two important lessons for our purposes. The first is that the new labor market argument is probably overstated. The decomposition reveals that black earnings would be 14% higher if they were treated as are whites. In addition, it is an open question whether the endowments are a legitimate basis for differentials, a point I will return to momentarily. However, it is also clear that this exercise shows considerable progress for blacks. When a similar analysis

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[1]This assumes that improvement in the treatment of blacks would not alter the earnings structure of whites. This is unlikely to be true although the direction of the effect on whites is in dispute and depends upon one's theory of discrimination. For example, Becker argues that in monetary terms discrimination lowers white incomes, Bergman argues that white incomes rise as a result of discrimination, and Reich argues that white workers lose and capitalists gain from discrimination. See Gary Becker, The Economics of Discrimination, 2nd Edition (Chicago: University of Chicago Press), 1971; Barbara Bergman, "The Effect on White Income of Discrimination in Employment," Journal of Political Economy, v. 71 (March-April, 1971) pp. 294-313; Michael Reich, "White Gains and Losses from Racial Inequality," Journal of Human Resources, vol. xiii (Fall, 1978), 524-544.

was performed on pre mid-1960's data the fraction of the differential due to treatment swamped that due to endowments.[2]

At the minimum both the narrowing of the wage differential and improvement in the coefficients for young blacks represents progress. Many observers go a step further and argue that discrimination is no longer a labor market problem on the grounds that the near equality of the B's shows that blacks receive a return equal to whites for productive characteristics. This argument implies that the explanation for the differential now lies largely in the institutions which lead young blacks to enter the labor market with poorer endowments than young whites. Schools and the structure of black families are the most often cited culprits.[3] Whether or not one accepts this view depends on important part upon what one believes are legitimate sources of earnings differentials. For example, in the earnings equations estimated above an important fraction of the wage gap was due to differences in the mean educational attainment of blacks and whites. One interpretation is that education is directly related to either productivity or lower training costs and hence employers are justified in paying a premium for better educated workers. Another interpretation would be that for many jobs there is little difference in the productivity of workers with different amounts of schooling and that employers, knowing that blacks have on average less schooling, use educational attainment as a device for screening them out. It would take us far afield to enter this debate[4] but it is important to keep this caveat on the "New Labor Market" view in mind.

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[2] Otis Dudley Duncan, "Inheritance of Poverty or Inheritance of Race," in On Understanding Poverty, Daniel P. Moynihan, ed. (New York: Basic Books), 1968, pp. 85-110.

[3] For example, in 1964 23% of black families had a single female head while in 1975 the figure had risen to 35%. See Richard Freeman, "Black Economic Progress Since 1964," The Public Interest, No. 52 (Summer, 1978) p. 63.

[4] Most economists would accept the former view. It is interesting to note that in Title VII discrimination lawsuits the courts generally require direct proof

Regardless of whether one accepts the strong or weak version of the "New Labor Market" argument it is quite clear that on a number of dimensions there has been considerable progress in recent years for blacks. Yet now we run up against the paradox: with respect to unemployment and labor force participation (and hence employment to population ratios) the position of young blacks has deteriorated quite seriously.

The basic facts are displayed in Chart I which present, for both men and women, racial ratios of unemployment rates, and employment to population ratios. As is quite apparent, the situation of young blacks is not only poor but has worsened. Furthermore, this situation is not limited to the more poorly educated group in the cohort. For example, in October 1976 the unemployment rate of 20-24 year old blacks enrolled in school (college) was 17.2% compared to 7.4% for whites.[5]

Some Hypotheses

There is no generally, or even widely, accepted explanation or set of explanations for these patterns. There are, however, a variety of hypotheses, many of them plausible on their face but also unproven and in some cases contradictory. I will now describe several of these and then in the remainder of the report seek to evaluate them.

One common explanation is the growth in cohort sizes, i.e. the baby boom. In 1955, 16-19 year olds accounted for 9.0% of the population while in 1975 they accounted for 12.7%. This implied a growth in absolute numbers from 8.8 million to 16.6 million.[6] Such an enormous growth might well be expected to create severe labor market problems and popular writing has made a good deal of this.

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of the relationship between education and productivity and that such proof is generally very difficult to provide.

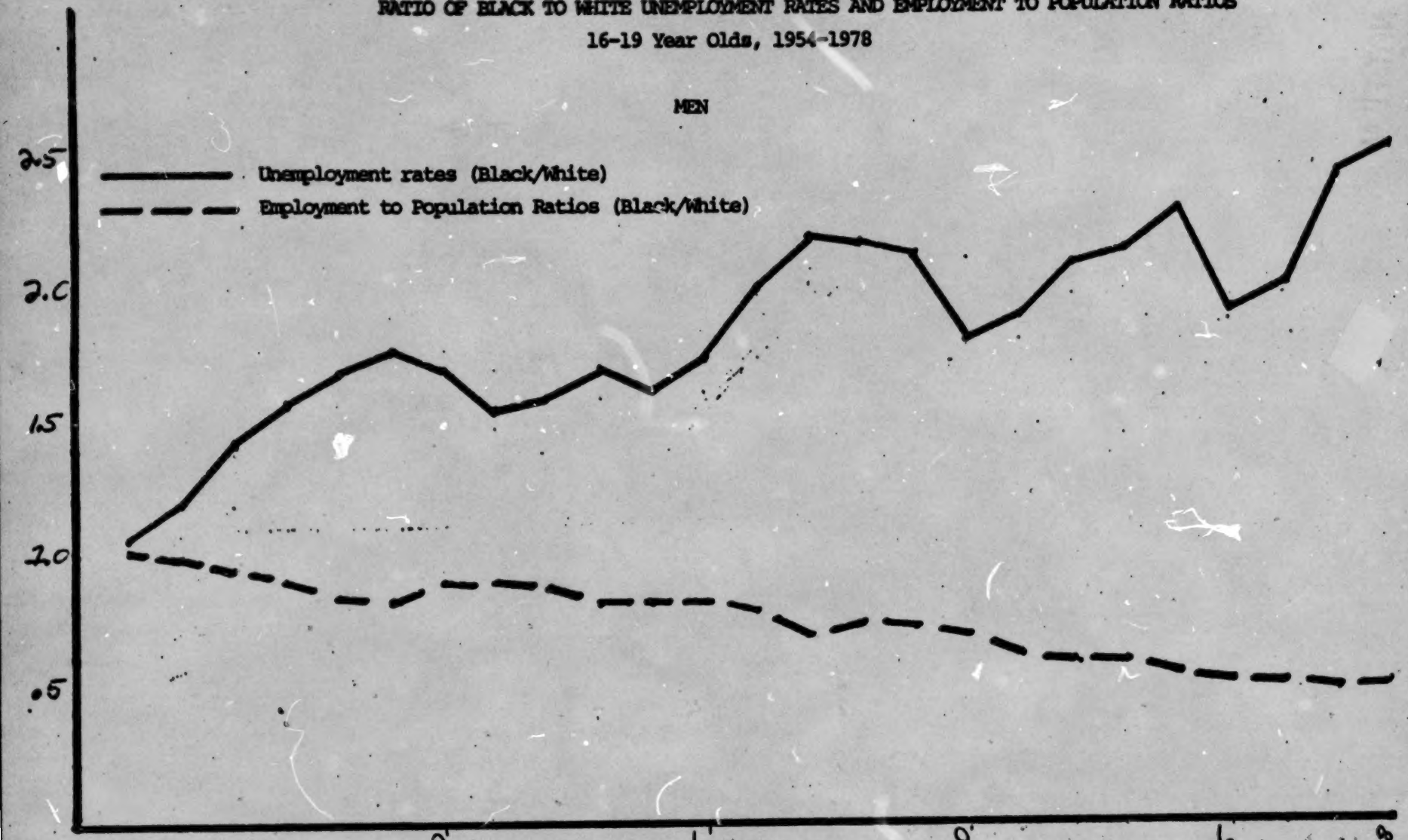
[5] Students, Graduates, and Dropouts in the Labor Force, October, 1976, Bureau of Labor Statistics, Special Labor Force Report #200 (Washington: G.P.O.), 1977, p. 7-10.

[6] Congressional Budget Office, Policy Options for the Teenage Unemployment Problem, Background Paper No. 13, 1976, Table 1, p. 84.

RATIO OF BLACK TO WHITE UNEMPLOYMENT RATES AND EMPLOYMENT TO POPULATION RATIOS

16-19 Year Olds, 1954-1978

MEN



WOMEN

2.5

2.0

1.5

1.0

.5

1954

1960

1965

1970

1975

1978

In point of fact, at least for whites, the baby boom has had a relatively minor effect (that this is so is illustrated by the small time trend in a time series regression of white teenage unemployment). There are two reasons why the effect has been so small. First, the extension of schooling served to keep many of these youth out of the labor market until very recently. The percentage of youth between 18 and 24 who were enrolled in school grew from 14.2% in 1950 to 31.1% in 1970.[7] Because students have lower participation rates than non-students this had the effect of dampening and delaying the baby boom and of shifting its impact away from the youth labor market that we have discussed and toward the labor market for college graduates.[8] Thus while the 18-24 year old cohort grew in absolute numbers by 52% their share of the total labor force rose more moderately from 15.9% to 17.8%.

The second point is that the economy responded reasonably well to the influx of youth. The teenage share of total employment roughly kept pace with the growth in their share of the labor force and grew from 5.8% in 1954 to 8.3% in 1975.[9]

All of this implies that the baby boom is not quite the villain it is made out to be for whites. The story may be different for blacks, the reason being that the baby boom was larger for them. Between 1960 and 1970 while the white

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[7]These data and those in the remainder of this paragraph are taken from F. Amacher and Richard Freeman, "Young Labor Market Entrants: An Overview of Supply and Demand, 1950-1970," mimeo, Center for Policy Alternatives, Massachusetts Institute of Technology, 1973.

[8]This led to the recent decline in the market for college graduates. See Richard B. Freeman, "Overinvestment in College Training?" Harvard Institute for Economic Research, Discussion Paper No. 371, July 1974.

[9]Congressional Budget Office, Policy Options, p. 87.

15-19 year old population grew by 41.0% the growth for blacks was 67.5%.[10] The impact of this on the age distribution of blacks and whites is illustrated in Diagram I. Furthermore, although black enrollments grew they did not do so sharply enough to dampen the population growth. The only other offset for blacks, a fall in the labor force participation rate especially for out of school youth, is itself a sign of labor market distress.

The difficulty with this explanation, however, is that in the absence of other aggravating factors a rapid increase in black relative to white teenage population should not affect blacks relative to whites unemployment. Imagine that there was a sudden increase in the number of redheads in the labor market. If redheads were just like blonds and brunettes in other respects then the effects would be to raise the unemployment rate of all groups, not simply redheads. If, however, there were some other characteristic of the labor market which made blacks or redheads less likely than others to find work then the population boom could help account for the worsening position.

The problem which we thus face is the following: black youth employment has increased in recent years (between 1968 and 1978 black 16-19 year old employment grew by 14%) but this growth has not been enough to offset the increased numbers of black youth in the labor force. Hence unemployment has risen. The research task thus becomes to discover what features of the labor market has prevented black employment from rising more rapidly and has kept it from keeping pace with the growth of white youth employment (which rose by 40% between 1968 and 1978).

In searching for such a "characteristic" it is useful to think of the potential sources of the problem in three categories: structural characteristics of

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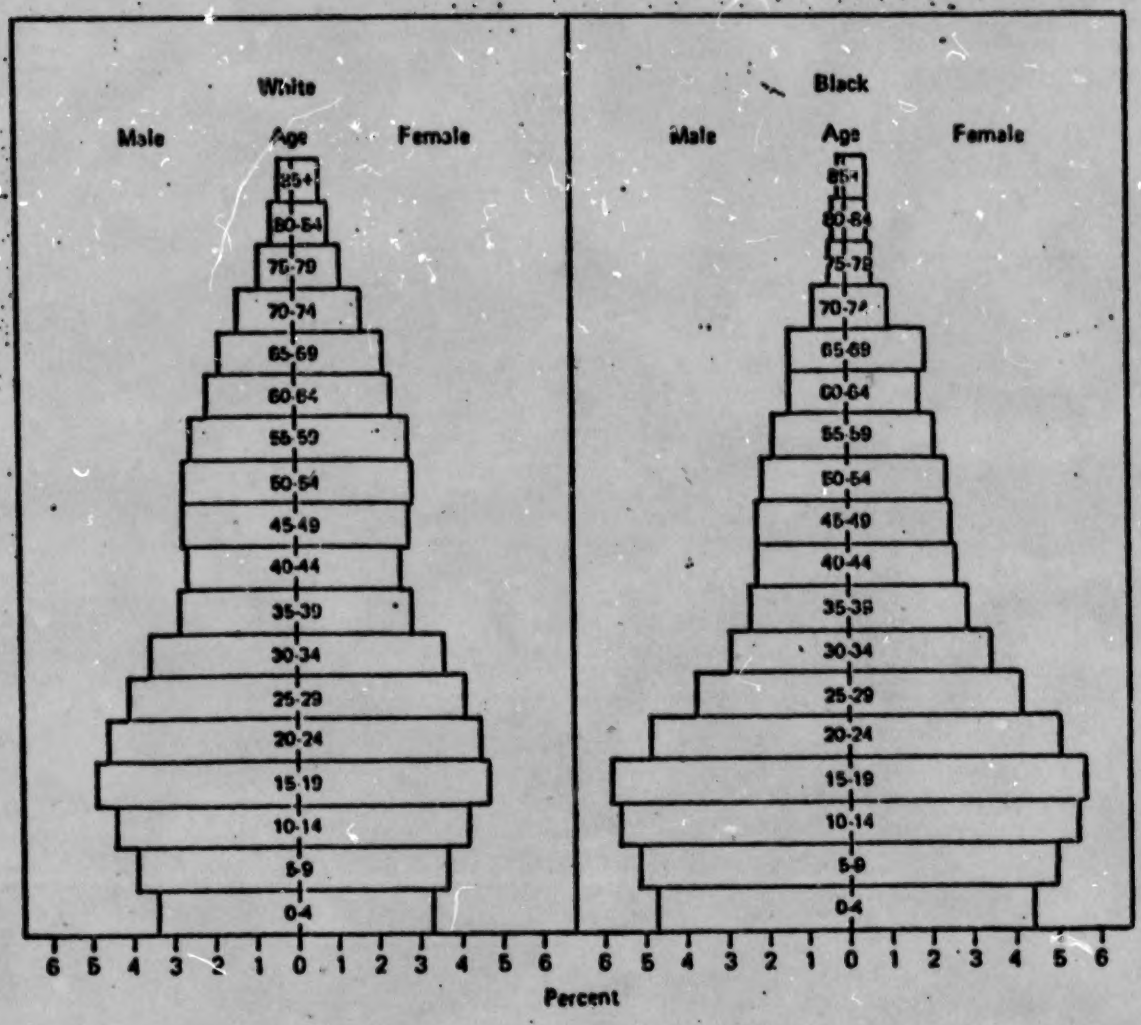
[10] Calculated from U.S. Census Bureau, 1970 Census, V. I, Characteristics of the Population, Table 53.

Figure 1

DISTRIBUTION OF THE WHITE AND BLACK POPULATION, BY AGE AND SEX: JULY 1, 1977



SOURCE: U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 721, "Estimates of the Population of the United States, by Age, Sex, and Race: 1970 to 1977," U. S. Government Printing Office, Washington, D. C., 1978.

local labor markets, the characteristics or behavior of the youth, and employer behavior.

Structural Changes in Local Economies

One useful approach for understanding why the employment situation of a group has worsened is to search for changes in the nature of the labor market in which they operate. In the case of young blacks three possibilities suggest themselves. These are: (1) a decline in the relative share of youth intensive industries in the economy; (2) the rise in the labor force participation of married women; and (3) the suburbanization of employment opportunities. I will discuss each of these in turn.

There has been considerable concern in the popular literature that one problem faced by youth in general is the reduction of entry level jobs. For example, Charles Silberman has written[11]

> Technical change is said to be destroying unskilled jobs, most especially the traditional "entry jobs" through which teenagers used to make their way into the labor force -- i.e. jobs that could be filled by youngsters with little education and no particular skill or training, but that might lead to more skilled and better paying jobs later on.

In response to this argument Kalachek notes that "a summary of the technical literature provides not one iota of support for this contention."[12] Kalachek is right in the definitional sense that every job ladder must have an entry job. In a more substantive sense the success of the economy in matching youth labor force growth with job growth as well as the absence of an important time trend in unemployment equations for whites both suggest that the entry job

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[11]Charles Silberman, "What Hit the Teenagers," Fortune Magazine, April, 1965, quoted in Edward Kalachek, The Youth Labor Market (Ann Arbor: Institute of Labor and Industrial Relations), 1969, p. 54.

[12]Kalachek, The Youth Labor Market, p. 55.

argument needs to be viewed with some skepticism. However, it is possible to argue that changes in the job structure has had an adverse effect on young blacks.

Youth tend to work early in their careers in the secondary sector of the economy. . . . There is evidence that some youth intensive activities have experienced either a secular decline or stagnant growth. For example between 1960 and 1970 the share of all jobs accounted for by construction and non-durable manufacturing declined while the share of retail jobs remained unchanged.[13] Such a contraction might have two effects both of which would damage blacks relative to whites. First, if the employers in the secondary labor market hire via a labor queue -- ranking potential employees in terms of desirability -- then if blacks are ranked below whites the shrinking of the youth job pool could leave the position of whites unchanged but blacks would be bumped out of jobs.[14] In other words, whites would capture a larger share of a shrinking pool of jobs. Second, whites may be better able than blacks to move outside the range of traditional youth jobs and find employment in other sectors. Employers may be more willing to substitute white than black youth for other labor. Either scenario would explain why a shrinking (absolute or relative to the labor force) of youth jobs would damage blacks relative to whites.

A second structural change which might have similar implications is the increase in the labor force participation of adult women. Between 1960 and 1976 the labor force participation rate of married women with children between the ages of 6 and 17 rose from 39.0% to 53.7%.[15] It is likely that many of these women

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[13] In 1960 construction accounted for 5.9% of all jobs, in 1970 5.4%; non-durable manufacturing declined from 11.7% to 9.8%; retail employment rose from 14.8% to 15.0%. Calculated from 1970 Census, V. I, Characteristics of Population, Table 235.

[14] For an analysis of this framework see Lester Thurow, Generating Inequality (New York: Basic Books), 1976.

[15] U.S. Department of Labor, Employment and Training Report of the President, 1977 (Washington: G.P.O.), 1978, p. 194.

both for reasons of life style and discrimination, work in the same secondary sector occupied by youth. Again, to the extent that these women are preferred by employers to young blacks then the employment impact will be adverse.

A final possible shift in local economies is the suburbanization of jobs. This is frequently cited as a major problem because of the image of jobs moving to the suburbs while young blacks remain trapped in the inner city. The perception that jobs have suburbanized while black youth remain behind is correct. Between 1970 and 1974 central city employment in the United States increased by 2.7% while employment outside central cities grew by 18.1%. In 1976, 75% of black 16-19 year olds lived in central cities while the figure for whites was 34%.[16] As a result of these trends a large literature has emerged concerning the impact of these developments upon black employment. John Kain initiated the debate and argued that black employment was reduced because of difficult physical access to jobs, lack of information, and the reluctance of employers to "import" blacks into white communities.[17]

Whatever the merits of the argument for adults it seems more plausible for youth. Their geographical scope of job search is apt to be more limited, both because of limited access to automobiles and because many work part-time after school and hence are unlikely to take jobs which require considerable travel. There is also some casual evidence to support this argument: the unemployment rate of center-city non-white youth in 1976 was 40.8% while for those residing in the suburban ring it was 33.0%.[18]

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[16]Garth Mangum and Stephen Seniger, Coming of Age in the Ghetto (Baltimore: Johns Hopkins University Press), 1978, pp. 25, 36.

[17]John Kain, "Housing Segregation, Negro Employment and Metropolitan Decentralization," Quarterly Journal of Economics, v. 82 (May 1968). For a critique see Bennett Harrison, Urban Economic Development (Washington, D.C.: The Urban Institute).

[18]Congressional Budget Office, Youth Unemployment: The Outlook and Some Policy Strategies (Washington, D.C.: G.P.O.), 1978, p. 39. I characterize this as casual evidence because the data contains no controls.

However, although the popular view is that suburbanization of jobs hurts the employment chances of black youth, once we remember that white residential dispersion has accompanied the job shift the case is no longer clear. As white youth move to the suburbs, black youth may have a better chance at downtown jobs even if the number of these jobs has decreased. On balance their possibility of being employed may rise. Furthermore, large concentrations of blacks living and shopping downtown may lead firms sensitive to consumer preferences to hire more blacks. Evidence supporting this point, and hence contrary to Kain, was recently presented by Offner and Saks.[19]

We thus have three possible explanations of the worsening position of young blacks which rely upon what I have characterized as structural changes in local economies. Shifts in local industrial structure, increases in the participation of women, and the suburbanization of jobs may help account for the plight of black youth. A second class of explanations rests upon changes in the behavior of the youth themselves.

As a first guess it would appear that changes in the characteristics of black youth should point to lower, not higher, relative unemployment rates. By all measures black youth who enter the labor market today are better prepared than comparable cohorts a decade ago. This is best seen in terms of educational attainment. The median years of school completed by blacks in 1959 was 8.7 while for whites it was 12.1. Yet by 1976 the gap had essentially disappeared with the figure for blacks being 12.3 and for whites 12.6.[20] Furthermore, there is

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[19]Paul Offner and Daniel Saks, "Note," Quarterly Journal of Economics, v. 85 (February, 1971). They found that black employment in a zone increases more than proportionately with the fraction of the zone's residents who are blacks. The effect was strongest in youth intensive industries -- business services and wholesale and retail trade.

[20]Employment and Training Report of the President, 1977, p. 203.

evidence that the quality of predominantly black schools has improved over the decade.[21]

There are, however, two lines of argument both of which imply that the behavior of black youth has changed in a manner which would lead to higher unemployment rates. Both arguments paradoxically rest on hypothesized responses of black youth to the improvements in the general economic conditions of blacks described earlier in this report and to the political events which in part lie behind these changes.

Robert Flanagan[22] has argued that the worsening of black unemployment rates is due to the fact that more black youth have been drawn into the labor force in response to the improvements in their treatment. Because the process of entry brings with it higher probabilities of unemployment this response will raise black unemployment rates. It does so presumably because black teenage participants as a group will have a higher proportion of new entrants than will whites. In support of this argument Flanagan presents data which show that for experienced workers (i.e. non-entrants) over twenty-five years old the racial unemployment ratios have improved over time. The difficulty with Flanagan's position, of course, is that it seems inconsistent with the secular decline in the labor force participation rates of young blacks. To reconcile Flanagan's assertion that the pool of teenage blacks is becoming more weighted with new entrants with the secular decline or stagnation in participation rates (for both in and out of school youth) we would have to assume a large withdrawal of experienced workers from the labor market and in a sense this is simply a redefinition of the problem, not an explanation of it.

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[21] Finis Welch, "Black-White Differences in Return to Schooling," American Economic Review, v. 63 (December, 1973) pp. 893-907.

[22] Robert Flanagan, "On the Stability of the Racial Unemployment Differential," American Economic Review, v. 66 (May, 1976) pp. 302-308.

A second supply side explanation has been presented by Piore.[23] He suggests that the impact of the Civil Rights movement in the 1960's led young blacks to increasingly refuse the menial low paying jobs which had previously been acceptable to their parents. The parents, many of whose frame of reference was conditioned in the rural South, had accepted these jobs, and the discriminatory treatment they entailed, both because the jobs seemed an improvement over prior conditions and because of the implied promise that the conditions of their children would improve. The next generation whose frame of reference was the North and whose consciousness had been raised by the Civil Rights movement insisted on better treatment.

There are several ways in which this development might lead to more unemployment. The changing behavior of black youth might be interpreted as an inward shift of young black supply surves to certain jobs. This would have the effect of raising their wages and reducing their employment. In an earnings function -- which is really a reduced form of a supply and demand system -- we would observe an improvement in black wages but the cause would be a supply shift and the consequence would be more unemployment due to the reduction in employment and the extended search of blacks for jobs which treated them better. Alternatively, if the new attitudes of young blacks led them to become a less tractable work force, less willing to submit to arbitrary and discriminatory traetment, employers would perceive this as a rise in the cost of black labor and would move up their demand curves, reducing their demand for black labor. Under either interpretation unemployment would rise as a result of these new attitudes.

The final set of explanations look to the demand side. It is possible that the effect of equal employment opportunity legislation has been to make it more difficult for employers to discriminate against blacks on the job in terms of wages. Thus an employer whose discriminatory tastes have remained unchanged

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[23] Michael J. Piore, "Puerto Rican Migration to Boston, A Case Study," M.I.T. Department of Economics Working Paper No. 110

may have shifted the arena of discrimination from inside the firm to the hiring gate. This explanation relies on a particular effect of employment discrimination laws and I know of no evidence that the laws have had this characteristic. A related version of the demand argument is simply that the shifting out of the demand curves for blacks (induced both by the growth of the economy and the decline of discriminatory tastes) was not rapid enough to compensate for the growth in the labor force due to the supply side developments I have described. Thus although we observe a decline in discimination, as measured by separate black and white demand curves, the improvement is incomplete and is swamped by the large increase in the supply of black youth labor.

EMPIRICAL ANALYSIS

The different explanations described above can be classified into two categories: (a) explanations which rely on racial differences in the behavior of individuals; (b) explanations which emphasize the nature of the economic structure confronting individuals. In the former category fall the supply side explanations. Arguments about differences in the aspirations and behavior of black and white youth can best be tested by data on individuals and the National Longitudinal Survey is an obvious choice. Thus a long section of the report will look at racial differences in quit rates, layout rates, reservation wages, and aspirations. Through this analysis I hope to identify the role, if any, of racial differences in behavior in explaining unemployment differentials.

These data, however, are not well suited for examining the various structural hypotheses I described earlier. Arguments concerning local industrial structure, the participation of adult women, or suburbanization of jobs all require considerably more detail on specific labor markets than is available in the NLS. Furthermore, data on individuals cannot be employed to estimate demand

curves yet we are clearly interested in shifts in racial demand curves over time. Thus is order to examine the role of labor market structure and to examine aggregate demand and supply curves we need another source of data. For our purposes cross-sectional census data on SMSA labor markets is a good choice. These data are quite rich with respect to the variables of interest. In order to identify changes over time I will work with both 1960 and 1970 data. In the next section I will model the youth labor market using these census data and I will then turn to the NLS analyses.

The Research Strategy

In this section I will attempt to understand youth employment levels and the worsening racial unemployment differential by estimating a model of the youth labor market employing aggregate SMSA census data. I will first estimate and discuss a fairly complex model using the 1970 Census. I will then reestimate the model using 1960 data. The strategy will be to use the 1970 model to explain youth unemployment levels and the racial differential and then to compare the 1970 and 1960 models to understand changes over time.

There are several advantages to using these data. Unlike cross-sectioned or longitudinal surveys of individuals the census data permit a fairly careful examination of the role of local industrial structure, the fraction of the labor force composed of women, the extent of local suburbanization, the interaction of enrollment rates and aggregate youth labor supply, and other structural characteristics. In addition, these data permit estimation of demand curves, which cannot be accomplished via individual survey data. Furthermore, the ten year period separating the two censuses provides a longer period in which to detect structural change and changes in supply and demand parameters than is available in other data sets.

However, these data also bring with them important limitations which should be kept in mind. The most general is the difficulty of inferring time series changes from cross-sectional data. This problem arises because proxies for cyclical effects, for example the local unemployment rate, may actually reflect differences in local labor market equilibrium. Another problem is that census SMSA data are poorly suited for fully capturing and controlling for differences in individual or group skills, training, or ability. Thus, any comparison between, say, the demand curves for two groups will be marred by the omission of adequate controls. Finally, the 1960 Census was taken during a slack economy, while the economy was tight at the time of the 1970 Census. Thus comparisons between the two years should be interpreted cautiously.

Despite these limitations, the approach taken here seems worthwhile because it enables us to get at the role of structural shifts and supply and demand relationships in the pattern of youth unemployment. The approach naturally differs from that appropriate to data on individuals (which would emphasize the role of quits, lay-offs, duration of spells, and personal characteristics) and I will take up this approach in the next section.

The Model

There have, of course, been previous econometric efforts directed toward the youth labor market. Labor force participation has been the subject of many studies,[24] as has school enrollment,[25] labor demand, including attention to

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[24]The classic study is William Bowen and Thomas Finnegan, The Economics of Labor Force Participation (Princeton: Princeton University Press), 1969. Other studies are reviewed in Arnold Katz, "State Minimum Wages and Labor Markets for Youth," mimeo, University of Pittsburgh, 1972. Not surprisingly, given our analysis, there is little consistency among the studies with respect to signs and magnitudes of parameters and many studies get surprising results which have to be explained in an ad hoc way. Youth labor supply is a very slippery concept.

[25]For example Linda Nasif Edwards, "The Economics of Schooling Decisions, Teenage Enrollment Rates," Journal of Human Resources, v. x, No. 2 (Spring, 1975), pp. 155-173; and Robert I. Lerman, "Some Determinants of Youth School Activity," Journal of Human Resources, v. vii, No. 3, pp. 367-379.

industrial structure,[26] and numerous studies of the minimum wage. However, what is notable about much of this literature, with the exception of the work of Katz,[27] is that the modelling is limited to either single equation efforts or multiple equation models of particular facets such as labor force participation. Here I will attempt to account for the interrelationships of demand, school enrollment, labor force participation and wage levels.

The structure of the model is presented in Table III, the definition of the variables is found in Table IV, and the means of the variables are in Table V. Greater detail on variable definitions and sources are presented in the Appendix. I will discuss the specification of each equation in some detail but it is first worth pausing for a general discussion of the model's structure.

The model structure consists of one employment equation and three equations which, taken together, represent a supply side. Three supply equations are necessary because of the peculiar characteristics of the youth labor market, namely the simultaneous relationship between the schooling and participation decisions. Table V shows that the participation rates of students are considerably below those of out-of-school youth. Hence any secular shift or variation across race, sex, or space in youth labor force participation rates may be due either to change within the two classes (in and out of school) or to changes in enrollment rates within class behavior constant. It is thus obviously important to model the supply side in some detail.

It is apparent that the model is recursive in that there is no feedback from the first four equations into the wage equation. Although not entirely satisfactory this approach is in the tradition of the labor supply literature and much of the employment demand literature and is, I believe justified in the case of

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[26] See for example, Edward Kalachek, "Determinants of Teenage Employment," Journal of Human Resources, vol. iv, no. 1, pp. 2-21.

[27] Arnold Katz, "Teenage Employment Effects of State Minimum Wages," Journal of Human Resources, vol. viii, no. 2 (Spring, 1973), pp. 250-256.

TABLE III

The Model

(1) EMP = β_1Q + β_2WAGE + β_3WOMENWG + β ED1619 + β_5YOUFRAC + β_6SUB + β_7SOUTH + e

(2) ER = β_0 + β_1FAMIC + β_2RESDISP + β_3EDDOL + β_4UADULT + β_5ED25 + β_6URBAN + e

(3) LFPER = β_0 + β_1UADULT + β_2WAGE + β_3FAMIC + β_4RESDISP ($+\beta_5$MARFRAC) + e

(4) LFPNER = β_0 + β_1UADULT + β_2WAGE + β_3FAMIC + β_4RESDISP ($+\beta_5$MARFRAC) + e

(5) WAGE = β_0 + β_1MIN + β_2FRACLFW + β_3UADULT + β_4ED1619 + β_5YOUFRAC + e

Note: The dependent variable and the two wage variables in equation I are in logs. Equations (2), (3), and (4) are in logit form. MARFRAC is modeled in equations (3) and (4) for women only.

TABLE IV

Variable Definitions

Variables measured for 16-19 year olds of each race and sex group:

WAGE	-	Hourly wage (measured for 1969 and adjusted for seasonal differences in hours worked)
EMP	-	Number employed during the census week
ED1619	-	Median years of school completed
ER	-	Enrollment rate during the census week
LFPER	-	Labor force participation rate of enrolled youth
LFPNER	-	Labor force participation rate of non-enrolled youth
MARFRAC	-	Fraction of the cohort married (for women)

Variables defined separately for all blacks and whites in the SMSA:

ED25	-	Median educational attainment of adult men 25 years old and above
RESDISP	-	Ratio of the population living in the central city to population living outside the central city
SUB	-	The ratio of all the SMSA's jobs located in the central city to jobs located outside the central city divided by RESDISP
FAMIC	-	Median family income

Variables defined for the entire SMSA:

Q	-	Total personal income in the SMSA
YOUFRAC	-	For men: the fraction of the SMSA's jobs accounted for by construction, manufacturing and trade; for women: the 1970 equivalent of the Bowen and Finnegan index of female oriented employment
SOUTH	-	A dummy taking on the value of "1" if the SMSA is located in the South
MIN	-	A dummy taking on the value of "1" if the SMSA was predominantly located in a state which in 1969 had a minimum wage exceeding the Federal minimum wage
EDDOL	-	Per capital expenditure on education in the SMSA's major city
UADULT	-	The SMSA unemployment rate of adult men during the census week
URBAN	-	The fraction of the SMSA's population living in urban areas
FRACLFW	-	The fraction of the SMSA's labor force during the census week consisting of adult women
WOMENWG	-	Hourly wage of adult women

TABLE V

MEAN VALUES, 1970

Dependent Variables	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
EMP	20508	2527	17638	2200
ER	.799	.695	.708	.644
LFPER	.417	.273	.298	.207
LFPNER	.783	.592	.597	.443
WAGE	2.14	1.73	1.65	1.66
UNEMPLOYMENT	.095	.190	.093	.204
E/P	.438	.284	.367	.226
Independent Variables				
ED1619	10.9	10.9	11.20	11.32
MARFRAC	--	--	.110	.095
		WHITES	BLACKS	
ED25		12.0	10.2	
FAMIC		$9547	$8456	
RESDISP		.846	10.57	
SUB		.646	.051	
		ALL		
Q		4589		
YOUFRAC		.525	(Women = .378)	
SOUTH		.277		
MIN		.259		
EDDOL		234		
UADULT		.035		
URBAN		.896		
FRACLFW		.366		

MEAN VALUES, 1960

Dependent Variables	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
EMP	13553	1402	12282	1055
ER	.713	.608	.596	.526
LFPER	.366	.230	.239	.141
LFPNER	.799	.657	.545	.385
WAGE	1.22	1.10	1.15	1.11
UNEMPLOYMENT	.111	.218	.079	.223
E/P	.423	.309	.349	.202
Independent Variables				
MARFRAC	--	--	.170	.168

	WHITES	BLACKS
ED25	10.8	8.6
FAMIC	6263	4053

	ALL	
Q	3278	
YOUFRAC	.659	(.333)
SOUTH	.277	
MIN	.407	
UADULT	.047	
FRACLFW	.323	

the youth labor market. It is obvious that excess supply of youth labor has failed to drive the wage to market clearing levels. This is attributable both to the presence of Federal and state minima as well as to the existence of socially acceptable minimum wages and other institutional restrictions. The adult unemployment rate does appear in the wage equation and is always insignificant or of the wrong sign and experiments with measures of excess supply in the youth lbor market produced poor results.

I will now discuss the specification of each equation. However, since the specification of many of the equations is standard in the literature, I will only highlight the points which are novel or of special interest here.

The Employment Equation. This equation estimates employment as a function of output (Q), the wage of the appropriate subgroup, the wage of adult women, the median educational attainment of that group, and three measures of local structure -- a measure of the suburbanization of employment relative to population, a local industrial structure variable (which is defined differently for men and women), and a dummy which takes the value of 1 if the SMSA is located in the South. This equation serves two important purposes. First, differences in the structure of equation across races will indicate separate demand curves and thus discrimination (subject to the caveat noted above concerning the absence of adequate personal characteristics controls). For example, a common finding in the literature is that the wage elasticity of employment with respect to wages is larger for blacks than whites and this can be taken as evidence of discrimination.[28] In addition, when we re-estimate the equation for 1960, we will be able to detect shifts over the decade in the demand equation.

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[28]The Becker discrimination model predicts that the demand curve for black labor in the presence of discrimination is less elastic with respect to wages than the white model (for a demonstration see Freeman, Changes in the Labor Market for Black Americans, pp. 92-93). However, this model is not well suited for this analysis. First, it is a full employment model and hence does not consider the

Second, this equation will determine the importance of several measures of local economic structure. If suburbanization of employment relative to population has had a detrimental effect on black employment opportunities, the sign on SUB will be positive (the appropriate concept -- which is used here -- is the ratio of central city employment to population). In addition, the industrial structure variables should measure the effect of local industry mix. Previous experience with these variables, or similar constructs, has had mixed results (Kalachek found them unimportant, Friedlander found them important). Finally, adult women are a potential source of competition for youth jobs and the inclusion of their wage in the equation will test the strength of this effect.

Thus the employment equations should tell us two things: (1) is black employment more sensitive than white employment to local labor market structure; (2) has that sensitivity increased over time. The answers should help us understand the key issue of why black youth employment has grown less vigorously than white in recent years.

Supply Equations. The model contains three supply equations. An enrollment and two labor force participation equations, one for those in school and one for out-of-school youth. The equations themselves are conventional in structure.

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implications of unemployment. Second, as Flanagan has demonstrated, the model's predictions with respect to the relationship between relative employment and relative wages of blacks and whites are inaccurate (Robert Flanagan, "Racial Wage Discrimination and Employment Segregation," Journal of Human Resources, vol. VIII (Fall, 1973) pp. 456-471). Recent minimum wage studies have found that the minimum wage has a larger disemployment effect for blacks than whites (Jacob Mincer, "Unemployment Effects of Minimum Wages," Journal of Political Economy, vol. 84 (August, 1976) pp. S87-S104; James Ragan, Jr., "Minimum Wages and the Youth Labor Market," Review of Economics and Statistics, vol. LIX (May, 1977) pp. 129-136) and if the coverage rate is roughly equal for the two races then this would imply a more elastic demand curve for black labor. A rationing model of employment would imply a more elastic demand curve for blacks. Imagine that whites are allocated outright (perhaps because of superior contacts or strong employer preferences) a larger share of the SMSA's youth jobs than are blacks. Then if the remaining jobs (firms) have demand curves of equal wage elasticity for blacks and whites the overall wage elasticity will appear larger for blacks.

Participation is a function of wages, family income, adult unemployment, the fraction of the cohort which is married (in the female equations), and one unusual variable -- the residential dispersion of the racial group. This variable is intended to test the hypothesis that inner city youth, particularly black youth, are especially discouraged. In contrast to Bowen and Finnegan, demand variables are excluded from these equations.

The enrollment equation is also conventional, though again there are several measures of the impact of spatial dispersion of population. The conventional wisdom concerning this equation is that high unemployment rates encourage youth to remain in school, adult education levels are a proxy for taste and hence the effect should be positive, family income incorporates several effects, but is most likely to be positive,[29] urbanization is associated with higher enrollment rates. Per capita expenditure on education should have an ambiguous effect since it may reflect either higher quality schools or more serious problems, though on balance its effect should be positive.

Wage Equation. The wage equation is probably the most poorly specified of the equations. Similar equations have met with little success.[30] The minimum wage variable is of considerable interest due to the longstanding debate on the impact of the minimum wage of youth employment. The variable is a dummy taking on the value of "1" if the state minimum wage is in excess of the prevailing federal minimum wage in 1969. The effect upon employment will, of course, be through the wage term in the first equation.

The fraction of the labor force composed of women (FRACLFW) should exert a downward effect on wages to the extent that women compete with youth in the

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[29] See Edwards, "The Economics of Schooling Decisions." A measurement error for this variable is that it measures family income in the SMSA, but some of the 16-19 year old enrolled youth are in college and have families who reside elsewhere. This will bias the coefficient to zero.

[30] Glen Cain and Martin Dooley, "Estimation of a Model of Labor Supply, Fertility, and Wages of Married Women," Journal of Political Economy, v. 84 (August, 1976), pp. S179-S200.

low skilled or casual labor market and to the extent that youth wages are flexible downwards. The industrial structure and unemployment terms are intended to capture the impact of demand on wage levels and the education term is a control for labor quality.

Data and Estimation

The observations are those SMSA's with a population in 1970 of 500,000 or more which reported data separately for blacks. Fifty-four SMSA's met this criteria.[31] The equations are estimated separately for 16-19 year old black and white men and women[32] (data on Spanish speaking have been excluded from all appropriate variables). The 1960 equations were estimated with data from the same SMSA's[33] with a few variables omitted.

The first equation is specified in logs in the dependent variable and the wage terms. Thus the wage coefficients are elasticities while the remaining coefficients represent proportional change in employment for a unit change in the independent variable. This form gives better fits (though qualitatively similar results) than other specifications. The next three equations (enrollment

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[31]The SMSA's included are New York, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington, Boston, Pittsburgh, St. Louis, Baltimore, Celveland, Houston, Newark, Minneapolis, Dallas, Seattle, Milwaukee, Atlanta, Cincinnati, Paterson, San Diego, Buffalo, Miami, Kansas City, Denver, San Bernadino, Indianapolis, New Orleans, Tampa, Phoenix, Columbus, Rochester, San Antonio, Dayton, Louisville, Sacramento, Memphis, Fort Worth, Birmingham, Toledo, Norfolk, Akron, Hartford, Oklahoma City, Gary, Fort Lauderdale, Jersey City, Greensboro, Nashville, Omaha, Youngstown, Jacksonville, Richmond, Wilmington.

[32]These SMSA's account for 81% of black 16-19 year olds living in urbanized areas in 1970.

[33]Most of the 1960 data were generously provided to me by Arnold Katz. Several variables were omitted because of the expense involved in collecting the data. The comparisons which follow between the 1970 and 1960 equations remain valid when the 1960 equations are compared to 1970 equations using only the 1960 variables.

rate and two labor force participation rates) are specified in a logit form (i.e. the dependent variable is log (P/(1-P)). This insures that the predicted values will fall between "0" and "1". The final equation is linear.

The model was estimated via Three Stage Least Squares, a procedure which is appropriate because of the simultaneity of the system and the cross equation correlations. All data were weighted by the square root of the SMSA's population. The results are in Table VI.

The 1970 and 1960 Employment Equations

These equations perform quite well and the results are of considerable interest. The most important points in the 1970 equations are:

(a) The response of employment to output is significant in all equations, although in elasticities they are somewhat higher for blacks than whites. This confirms the general notion that blacks benefit relative to whites from economic upturns.

(b) The wage terms tell an interesting story. The own-wage coefficients are insignificant in all cases except for black men. Hence only for this group is there evidence of racially differential treatment and even this should be treated with caution since it is difficult to tell a plausible story about why the treatment of black women should be better than black men. On the other hand the adult women's wage variable is significant in both black equations and in neither of the white equations. Employers evidently do not substitute women for white youth (or vice versa) but do so for blacks. The clear implication of this is that the rise in the labor force participation of adult women has had a detrimental effect on black teenage employment.

(c) A major interest is the impact of the suburbanization variable. The data show a vast racial difference in the suburbanization of population -- the mean value of RESDISP (the ratio of central city to non-central city population) is 10.5 for blacks and .84 for whites. In the discussion above I argued that the

EMPLOYMENT EQUATIONS, 1970 and 1960

(t statistics)

1970

	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
Q	.0001 (5.86)	.0001 (4.71)	.0001 (6.028)	.0001 (4.36)
ED16	.6430 (10.09)	.2346 (2.54)	.6283 (7.50)	.2086 (1.83)
YOUFRAC	2.5235 (3.75)	6.6467 (4.68)	3.3534 (1.40)	5.5124 (1.42)
WAGE	-.4852 (1.12)	-4.4425 (3.07)	1.4803 (1.53)	-.8793 (.60)
WOMENWG	1.1745 (1.52)	3.0022 (3.02)	-.0805 (.10)	2.6139 (2.13)
SUB	-.0237 (.23)	-.1724 (.31)	-.0065 (.07)	-.5307 (.97)
SOUTH	.1145 (.95)	1.1312 (5.21)	-.3862 (2.79)	.8871 (3.02)

1960

Q	.0001 (4.44)	.0002 (4.68)	.0001 (5.93)	.0001 (3.98)
WAGE	.0326 (.01)	-7.0862 (4.61)	1.5624 (1.40)	-7.9881 (6.07)
WOMENWG	1.5090 (1.52)	1.3229 (1.03)	.4105 (.42)	.2096 (.17)
YOUFRAC	.0672 (1.29)	.0496 (.62)	3.2991 (1.40)	.2144 (.05)
ED16	.7102 (18.37)	.5681 (10.47)	.6018 (9.80)	.5856 (4.96)
SOUTH	.2294 (1.09)	.5259 (1.76)	-.2599 (1.32)	.1558 (.48)

effect of job dispersion and residential dispersion of whites could either benefit or hurt blacks. These results suggest that there is no effect one way or the other. Hence even if the Kain argument is plausible for youth -- as it seems to be -- it is offset either by the reduction in competition black youth face for those jobs which remain in the central city or the pressures which a numerically more dominant black population places upon firms to hire black youth.

(d) The industrial structure variable is positive in all four equations but significant only for men.[34] The size of the coefficient is larger in both black equations than in the comparable equations for whites. This suggests that in SMSA's with an adverse industrial structure whites are better able than blacks to penetrate other sectors of the economy. This finding, which is reinforced by the greater sensitivity of black wages to the industrial structure variable, is consistent with findings by Friedlander on the importance of industrial structure to blacks. Furthermore, this finding suggests that secular shifts in industrial structure have been adverse to blacks. In 1960, the mean value of the male YOUFRAC was .659, by 1970 it had declined by 20% to .525. The results here suggest that this shift in the industrial composition of the economy impacted disproportionately upon black men.

(e) The coefficients on the Southern dummy variables are quite striking and imply that blacks benefit, both absolutely and relative to whites, from Southern residence. However, these coefficients need to be treated with caution because they may simply be proxies for the relative number of young blacks in the SMSA. The discussion below of the employment to population ratio equations will clarify this.

To summarize these demand equations, they do seem to show that black employment is in general more sensitive to local economic structure than is white

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[34] Recall that the definition of the variable differs for men and women.

employment. In particular the greater black response to YOUFRAC, the racial differences in the coefficients on WOMENWG, and the SOUTH variable all point to this conclusion.

The change in the structure of the equations between 1960 and 1970 for blacks and whites does not vary by sex and is of considerable interest. The white equations are remarkable for the lack of change in structure. Only two coefficients change sign (the own-wage term for white men and the women wage term for white women) and neither of these coefficients but one are of the same magnitude. The only exception is the YOUFRAC term for men which becomes larger and significant.[35] Beyond this, the curves do shift in the sense that the implied elasticities of employment with respect to output increase between 1960 and 1970.[36] This reflects the fact that for whites the economy found jobs for the baby boom generation. However, the other characteristics of the demand curves remained stable.

The story is different for blacks. For women the employment elasticity increased but for black men it declined. Beyond this there is clear improvement with respect to the wage terms. In 1960 for both black men and women the wage elasticities are large, significant, and negative indicating considerable discrimination. By 1970 this effect had diminished. On the other hand, the sensitivity of black employment to both industrial structure and adult women's wages increased between 1960 and 1970. This change in the structure of the equations can be read as an improvement in the sense that for a given adult women wage or youth industry share in 1970 black youth gained more employment than they did in

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[35] This also occurs for black men. Hence Kalachek's finding using 1960 data that "key industry" variables fail to be important is supported but evidently this changed between 1960 and 1970.

[36] The elasticity is $Q.B_1$, since

$$B_1 = \frac{\partial E}{\partial Q} \cdot \frac{1}{E}$$

1960. At the same time, however, the shift between 1960 and 1970 represents a growing sensitivity of black employment upon local labor market structure, a trend not observed for whites. Thus while the pattern does seem to represent an improvement over the 1960 structure it is in a sense a mixed blessing.

Labor Supply

The ratio of black to white labor force participation has worsened secularly. In these data the lower black participation rates are reflected by mean values of .370 for men and .291 for women, compared to comparable white values of .491 and .385. Although contributing definitionally to lower unemployment these relatively low black participation rates are a further sign of pathology in the labor market. Furthermore, the racial differential cannot be attributed to compositional effects arising from schooling, enrollment rates are lower on average for blacks (.695 for men and .644 for women compared to .799 and .708 respectively for whites) and the participation rate of out-of-school youth is higher than that of those in school.

The comparison I will now make between the 1970 and 1960 labor supply equations does help shed light on the decline of black relative to white participation. However, these results should be treated with some skepticism. Labor force participation is an ambiguous concept in the youth labor market. The youth labor market is very volatile, with youth moving in and out of the labor force. Attachment to the labor force is not as secure as it is for adults. Many youth who are reported out of the labor force are in fact available for work and may even be looking in a casual way. At the same time, youth who are currently looking or working have a weak attachment and may soon be out of the labor force. There is also considerable disparity in reported participation between census estimates, in which a parent generally reports the status of a youth living at home, and surveys

1970 LABOR SUPPLY AND WAGE EQUATIONS

(t statistics)

	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
Enrollment				
FAMIC	.00001 (1.26)	-.00005 (1.77)	-.00003 (.34)	-.00005 (1.73)
RESDISP	-.0389 (1.46)	-.0025 (1.68)	-.0283 (1.57)	-.0007 (0.52)
EDDOL	-.0001 (0.31)	-.0009 (1.54)	.0003 (0.92)	-.0009 (1.67)
UADULT	2.3614 (1.17)	7.1914 (2.59)	2.1721 (1.50)	4.3172 (1.71)
ED25	.2027 (3.65)	.1097 (3.10)	.1405 (3.60)	.0650 (1.54)
URBAN	-.0337 (0.11)	-.8671 (2.33)	-.4401 (2.29)	-1.4919 (4.46)
CONSTANT	-.8544 (1.46)	1.0013 (2.35)	-.5140 (1.16)	1.7677 (3.98)
Labor Force Participation, Enrolled				
UADULT	-1.4139 (0.53)	3.4422 (0.92)	-3.8892 (1.26)	-3.0517 (0.82)
WAGE	.0891 (0.92)	-.7485 (1.80)	.3146 (0.73)	-.9237 (1.67)
FAMIC	.00006 (3.81)	.0001 (2.16)	.00008 (3.90)	.0003 (5.14)
RESDISP	-.0034 (0.10)	-.0007 (0.41)	.0181 (0.44)	-.0042 (1.83)
MARFRAC	--	--	-2.4268 (1.89)	3.9534 (1.83)
CONSTANT	-.6975 (2.64)	-.7278 (1.90)	-1.8326 (2.18)	-2.6333 (3.46)

Labor Force Participation, Not Enrolled

UADULT	-7.5635 (2.85)	-15.9161 (3.98)	-8.1433 (4.68)	-8.8451 (2.98)
WAGE	-.1703 (1.71)	1.2084 (2.69)	.9262 (3.67)	- .8270 (1.83)
FAMIC	.00005 (3.34)	- .00008 (1.59)	.00002 (2.25)	.0002 (4.21)
RESDISP	.0075 (0.23)	- .0021 (1.16)	.0828 (3.62)	- .0021 (1.15)
MARFRAC	--	--	-4.5322 (6.29)	2.4740 (1.40)
CONSTANT	1.4325 (5.33)	- .3584 (0.87)	- .6822 (1.40)	-.4670 (0.75)

Wage

ED16	-.0113 (0.09)	.0431 (1.48)	.0544 (0.69)	.0461 (1.00)
MIN	.3417 (2.96)	.1322 (2.35)	.2209 (4.78)	.1870 (2.38)
FRACLFW	-5.1371 (2.08)	- .2339 (.20)	1.8742 (1.40)	-2.7766 (1.19)
UADULT	- .6307 (0.13)	4.2149 (1.74)	-2.8882 (1.63)	-2.6262 (0.87)
YOUFRAC	- .0316 (0.04)	1.5784 (4.80)	-2.5067 (1.98)	1.2892 (0.58)
CONSTANT	4.0397 (2.01)	.3136 (0.4543)	1.3383 (1.49)	1.7115 (2.36)

1960 LABOR SUPPLY AND WAGE EQUATIONS

(t statistics)

	WHITE MEN	WHITE WOMEN	BLACK MEN	BLACK WOMEN
Enrollment Equation				
UADULT	2.0853 (1.21)	.9660 (.43)	9.4278 (2.21)	.9643 (.27)
ED25	.1107 (4.72)	.0394 (1.23)	.3180 (4.96)	.0826 (1.48)
FAMIC	.00001 (.47)	.0001 (3.24)	-.0002 (3.02)	-.00006 (.78)
CONSTANT	-.4614 (1.60)	-.7625 (2.02)	-1.5622 (3.4933)	-.3897 (1.00)
Labor Force Participation, Enrolled				
UADULT	-.70845 (1.78)	-5.6091 (1.54)	-8.222[illegible] (1.48)	-2.3099 (.50)
WAGE	5.1364 (4.41)	.9807 (1.79)	.8836 (1.03)	.1561 (.29)
FAMIC	-.0003 (2.90)	.0004 (.58)	-.0000002 (.002)	.0001 (2.24)
CONSTANT	-4.2026 (5.63)	-2.0640 (3.76)	-1.8545 (3.60)	-2.2820 (4.15)
MARFRAC	--	-1.6895 (1.98)	--	-2.0634 (1.75)
Labor Force Participation, Not Enrolled				
UADULT	-11.1303 (2.65)	-8.2155 (2.62)	6.7276 (1.11)	-5.9216 (1.59)
WAGE	3.7160 (2.87)	-.3118 (.64)	-1.3197 (1.44)	-1.0836 (2.48)
FAMIC	-.0001 (1.17)	.00002 (.39)	-.00007 (.55)	.0001 (2.45)
CONSTANT	-1.5705 (1.91)	1.7427 (3.65)	2.0974 (3.78)	.2019 (.44)
MARFRAC	--	-6.0109 (8.044)	--	.8754 (.90)

Wage

MIN	.0670 (2.96)	.0273 (5.02)	.1252 (3.64)	.0826 (1.87)
FRACLFW	-1.4499 (3.33)	.6943 (.79)	-1.5716 (2.27)	-1.6326 (1.23)
UADULT	-1.5639 (1.30)	-.0242 (.02)	.4015 (.23)	.8774 (.52)
ED16	.0217 (1.05)		.0786 (3.11)	.0744 (2.02)
YOUFRAC	-.0066 (.62)	-1.9738 (2.03)	-.0063 (.34)	.4384 (.29)
CONSTANT	1.5060 (5.15)	1.5387 (8.61)	.7480 (1.83)	.6415 (1.36)

which ask youth directly.[37] Thus the discussion below should be taken with a large grain of salt.

Turning to racial differences in the structure of the 1970 labor force participation equations, it is apparent that there are some important differences and, with one significant exception, they argue for lower black participation rates. In the in-school equation, both black men and women show significant negative wage effects, but whites do not.[38] In the out-of-school equation black women show a significant negative wage effect while the effect for white women is positive. On the other hand, the coefficient is positive for black men. Thus there is some, although not overwhelming, evidence of a stronger income effect for black than white youth.

The equations demonstrate that the conventional wisdom concerning the relationship between unemployment and enrollment is correct, with the coefficient being large and positive in all four equations and significant in two. The coefficients on the education level of adults also perform as expected. The only surprising result is the consistently negative sign on the urbanization term, a finding contrary to our expectations. This cannot be attributed to the quality of central city schools since the urbanization index counts most suburbs as urbanized.

The shifts between 1960 and 1970 in the labor force participation equations do not present as clearcut a picture as did the employment equations. At least for whites the shifts between 1960 and 1970 are not consistent across the sexes.

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[37] Michael Borus et al., "Counting Youth: A Comparison of the Labor Force Statistics in the Current Population Surveys and the National Longitudinal Surveys," in Robert Taggert and Naomi Berger Davidson, eds., Employment Statistics and Youth (Washington: G.P.O.), 1978, pp. 15-34.

[38] These negative wage effects were also observed by Bowen and Finnegan although they used a different wage variable. They attribute the effect to problems in measuring labor supply. In addition, I would argue that many youth are "target" earners, i.e. they work to earn money for recreational purposes and thus high wages may reduce labor participation.

However, for blacks the shifts are consistent and help us understand secular trends in participation rates.

For white men the discouraged worker effect is considerably weakened in the 1970 compared to the 1960 equations, both for those in and out of school. On the other hand, while the 1960 equations share the classic pattern of a positive wage term and negative family income term by 1970 the wage term is insignificant and the family income coefficient is positive. Thus the structure of these equations change, but the changes are offset and there is very little overall movement in observed participation rates. For women we observe little change in the discouraged worker effect and an inconsistent wage effect pattern (the term in the out-of-school equation becomes positive and significant in 1970 while the coefficient for the in-school term loses significance). The somewhat inconsistent picture (e.g. the move away from the "classic" patterns in the 1960 white male equations) is comparable with Field's work on adult women which shows a similar disintegration in expected participation patterns over time.[39]

The shifts in the black equations tell a more consistent story. For both black women and men the 1970 equations show a considerably more powerful discouraged worker effect than do the 1960 equations, and this doubtlessly explains the adverse participation trends over the decade. Data of these kind cannot, of course, explain why this development occurred.

Employment to Population Ratios

The employment to population ratio is in general a poor measure with which to work because it combines labor demand and supply effects. The ratio could be low in an SMSA either because the demand for youth labor is weak or because labor force participation rates are low. This difficulty may be minimized in the case

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[39] Judith Fields, "A Comparison of Inter-city Differences in the Labor Force Participation Rates of Married Women in 1970 with 1940, 1950, and 1960," Journal of Human Resources, Vol. XI, No. 4 (Fall, 1976), pp. 568-577.

of the youth labor market because, as I argued above, the distinction between labor force categories is weak. To the extent that labor force participation is ambiguous the employment to population ratio becomes a useful measure.

The advantage of the measure, relative to absolute employment -- which I have been using thus far -- is that it controls for the number of youth in an SMSA. This is particularly important for blacks since, even holding SMSA size constant, their numbers vary considerably. It may be, for example, that the coefficients in the SOUTH dummy variables in the black employment equations are positive simply because, holding city size constant, there are relatively more black youth in southern cities.

In order to determine whether the results developed above remain after controlling for the difficulty I have estimated equations for employment to population ratios. They are reported for 1970 and 1960 in the table below. All of the variables have been previously defined, with the exception of Q/P which is the Q measure divided by the number of youth in the equation specific cohort.

The results generally confirm the earlier analysis. In 1970 blacks show a larger positive response to the wage of adult women than do whites, the coefficient in both equations being positive and significant for blacks and insignificant for whites. In addition, the black own-wage term follows the previous pattern. For males it is negative and significant, but larger in absolute value for balcks, while for women the term is positive and significant for whites and insignificant for blacks. As in the earlier equations, the industrial structure variable is positive and significant for men and insignificant for women; however it should also be noted that the magnitudes for men are larger for whites while in the employment equations they are larger for blacks. Finally, as we suspected, the SOUTH dummy becomes insignificant in this framework.

The shift in the structure of the equations between 1960 and 1970 also confirms the earlier results. The magnitude of the negative own-wage term is reduced for

Employment to Population Ratios

Effects of a Unit Change in the Independent Variable Upon the Employment to Population Ratio

	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
1970				
Q/P	.188	.002	-.090	.012**
ED16	.010**	.005**	-.003	.0005
YOUFRAC	.134**	.108**	.100	.006
WAGE	-.095**	-.114**	.298**	.002
WOMENWG	.083	.037*	-.011	.040*
SUB	-.004	.004	-.001	.007
SOUTH	.00009	.004	-.011	.00004
1960				
Q/P	-.294	.010*	-.026	.007**
ED16	.021**	.007**	.006*	.001
YOUFRAC	.010**	.002	.009	.065
WAGE	.039	-.315**	-.162**	-.062**
WOMENWG	.050	.088	.146**	.011
SOUTH	.007	.012	.006	.00008

Note: The reported results are calculated as $\frac{\partial (E/P)}{\partial X_i} = \beta_i [(P)(1-P)]$ and are calculated at the mean values of E/P. This form follows from the logit specification. The estimated equations are reported in the Appendix to this cahpter.

** = Significant at the 5% level.

* = Significant at the 10% level.

both black men and women, the wage of adult women is insignificant for blacks in 1960 but becomes significant in 1970 and the industrial structure variable becomes more important (positive and significant) for black men in 1970.

On the balance, then, the results of the analysis of employment to population ratios supports the conclusions drawn from the earlier model.

Employment Growth

As a final check on the conclusions we have reached thus far this section estimates equations for employment growth between 1960 and 1970. The dependent variable is the percentage growth in employment for each race/sex cohort between those two years and the independent variables are the 1960 values of FRACLFW and YOUFRAC, the percentage growth in personal SMSA income, DQ, and the percentage growth in the size of the cohort between the two years, DPOP16. We expect to find negative coefficients for $FRACLFW_{60}$, and positive coefficients on $YOUFRAC_{60}$. The population growth variable is clearly not exogeneous but an estimation of migration and fertility functions is beyond the scope of this work. To test for the sensitivity of the other coefficients to this variable the equations are estimated both with and without it. The results are presented below. The discussion will focus on the equations which include DPOP16.

These equations generally confirm our earlier results. White male employment growth is negatively related to $FRACLFW_{60}$ but shows no significant relationship to $YOUFRAC_{60}$. Black male employment growth has a negative relationship to $FRACLFW_{60}$ and a positive relationship to $YOUFRAC_{60}$. As before, the results for women are weaker, the only significant relationship is a negative one between the employment growth of white women and $FRACLFW_{60}$. However, the comparable relationship for black women has the correct sign and approaches significance. In general then, these results confirm the earlier ones and increase the confidence with which we can accept them.

EMPLOYMENT GROWTH EQUATIONS

Women	White Women		Black Women	
$FRACLFW_{60}$	-2.1955	-3.6442	-14.9316	-7.5338
	(.59)	(1.66)	(2.06)	(1.43)
$YOUFRAC_{60}$	3.0851	2.7729	6.9222	.3828
	(.78)	(1.19)	(.90)	(.07)
DQ	.1747	.0891	.0562	- .0129
	(3.51)	(2.90)	(.58)	(.18)
DPOP16	--	.9289	--	1.3121
		(9.60)		(6.95)
CONSTANT	.1014	.2625	3.7795	2.6681
	(.16)	(.71)	(3.08)	(3.00)
R^2	.7968	.930	.791	.896

Men	White Men		Black Men	
$FRACLFW_{60}$	- .7116	-2.6756	-9.9360	-5.4390
	(.30)	(2.23)	(1.88)	(2.65)
$YOUFRAC_{60}$	- .0430	- .0271	.0910	.1190
	(.86)	(1.07)	(.81)	(2.75)
DQ	.6366	.3060	.1118	-.0626
	(3.02)	(2.77)	(.24)	(.34)
DPOP16	--	1.0187	--	.8477
		(11.85)		(16.63)
CONSTANT	.7532	.7818	4.1931	1.8765
	(1.00)	(2.04)	(2.46)	(2.80)
R^2	.801	.950	.642	.948

The dependent variable is the percentage of employment growth for each cohort between 1960 and 1970.

Summary

The results of the analysis thus far show that in some important respects black youth employment is more dependent than that of whites upon structural characteristics of local economies. This was true both for the industrial structure variable and with respect to competition from adult women. On the other hand, there is no evidence that the suburbanization of employment opportunities has had an adverse effect.

The comparison of the 1960 and the 1970 equations shows that over time blacks have become more dependent upon the structural characteristics of the local economies. In particular, both the magnitude of the coefficients of the industrial structure variable and the women wage variables have increased. Thus black employment appears to have become more sensitive to the local industry mix and to competition from women. I use the word "appears" because the case is not entirely clear, especially with respect to competition from adult women. There are two points which cast at least some doubt on this finding. First, in the wage equations the variable measuring the fraction of the SMSA's labor force composed of adult women does not enter the blacks equation with a significant negative sign as might be expected if women and young blacks compete for the same jobs. Of course, the wages of young people are quite rigid downwards (due to the minimum wage and other barriers) so such an effect might not be expected. The second difficulty lies in identifying the jobs for which the women and young blacks compete. This is not particularly a problem for teenage black women, but it is

for men. In March 1976 41.9% of married women with husbands present worked in sales or clerical occupations, while the category (in October 1976) accounted for 12.69% of the employment of 16-19 year old enrolled black males.[40] The degree of overlap is thus not overwhelming, although it should also be noted that white teenage males are able to better penetrate clerical and sales work.[41] There is also a large overlap in service occupations (15.8% of the women, 39.9% of the male black teenagers) but this category is so braod as to make comparisons very hazardous. Finally, 15.7% of the women held blue collar occupations (crafts, operatives, and laborers) while this category accounted for 36.1% of the black male youth employment. Thus while there is clearly scope for competition the matching of the occupational distribution of the two groups is far from perfect and the finding should be interpreted with some care.

However we interpret the shifts between 1960 and 1970 in the equation structure it is clear that the total employment of black youth did increase over the period and it is also clear that the structure of employment determination of black and white youth does differ in important respects. We are thus led to consider that hoary villain, the baby boom. The size of the black cohort grew more rapidly during this period than the white cohort. Between 1960 and 1970 the size of the 16-19 year old white cohort in these SMSA's grew by 43% while for blacks the group was 92% larger in 1970 than 1960.[42] Thus the size of the black cohort almost doubled while the white group grew at a much slower rate. The demand for both black and white youth labor increased during this period. However, the improvement

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[40]Special Labor Force Report No. 206, "Marital and Family Characteristics of the Labor Force in March, 1976," p. A-15, and Special Labor Force Report No. 200, "Students, Graduates and Dropouts in the Labor Force, October, 1976."

[41]Special Labor Force Report No. 200

[42]Of course, within these SMSA's part of the population shifts may be due to migration.

in the black employment equations was not adequate to compensate for the increase in the cohort size. Thus unemployment rose.

INDIVIDUAL BEHAVIOR[43]

An important limitation of the analysis thus far has been that it focused on aggregates -- SMSA employment, labor force participation rates, and so forth. While this approach has its advantages it also is clearly incomplete in important respects. In particular we lose track of the behavior of individuals. We also are unable to control adequately for differences in the background characteristics of people. For these reasons the aggregate SMSA analysis must be supplemented by studying individual micro data. In this section I will employ the NLS data.

The purpose of this section is to examine the set of hypotheses discussed at the beginning of this chapter concerning the impact of individual behavior upon the racial differences in unemployment rates. A useful way to approach this issue is to decompose the unemployment experience of individuals into a portion attributable to frequency of spells of unemployment and a portion attributable to the length of each spell. In particular, the annual weeks of unemployment experienced by a person is a product of the probability that the person will experience a spell times the expected duration of a spell when it is experienced. This distinction between spells and duration is important. For example, a group may suffer high unemployment rates either because of a disproportionate number of spells, though each spell may end quickly or because unemployment lasts a very long time when it does occur. Issues of behavioral differences v. opportunity arise in both cases. For example, a group may experience frequent spells because

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[43]This section (pp. 52-68) is based upon an earlier paper prepared for the ASPER sponsored conference, "Employment Statistics and Youth," held in February 1978, at the University of California, Los Angeles.

they are prone to quit jobs frequently. (This would normally be taken as a behavioral difference although people may also be forced to quit by bad treatment on the job. I will test for this.) Alternatively, a group may have frequent spells because they are more likely to be laid off, i.e. "first fired." Similarly, in the case of duration a group may experience long durations because their reservation wages are too high or because firms refuse to hire them. It is these distinctions between the impact of behavior and opportunity that I will try to explore in this section. I will first examine racial differences in durations and then turn to an analysis of spells. In these first two sub-sections I will focus on decomposing racial differences into portions due to differences in endowments, and portions due to differences in behavior or treatment (just as I did in the earlier discussion of wages). I will then take this latter portion and try to see which factor -- treatment or behavior -- lies behind the differential.

Duration of Unemployment

The model employed here is drawn from the implications of various search theories.[44] An individual's duration of unemployment is determined by a two-equation system, one equation determining the reservation or acceptance wage, the other determining the duration of a spell. This system can be summarized as:

(1) $R = R(K,D,C)$

(2) $D = D(U,R,K)$

with:

$\frac{\partial R}{\partial K} > 0 \qquad \frac{\partial R}{\partial D} < 0$

$\frac{\partial R}{\partial C} < 0 \qquad \frac{\partial D}{\partial U} > 0$

$\frac{\partial D}{\partial R} > 0 \qquad \frac{\partial D}{\partial K} < 0$

D = Duration of spell

K = Skill level

R = Reservation Wage

C = Cost of search and time spent unemployed

U = Distribution of job vacancies

[44] For example, D. Mortensen, "Job Search, The Duration of Unemployment,

A straightforward approach to searching for racial differentials in duration is to estimate this system for blacks and whites and test for the differences across the equations. In particular, it would be interesting to know whether there are differences in the rate at which the reservation wage falls in response to duration, differences in the extent to which skill levels reduce duration, and differences in the impact of cost reducing factors, such as unemployment insurance, in increasing the reservation wage.

Estimates of this system will be provided below. However, there is a serious difficulty. Although this system provides a measure of the determinants of reservation wage, the measure of duration is seriously biased. Rather than bieng a measure of completed spells, which is what we want to measure with respect to our complete system of unemployment, the simultaneous system above provides a measure of spells in progress. As has been shown[45] use of duration in progress provides a biased estimate of the length of completed spells largely because long spells have a higher probability than short spells of being sampled at a point in time.

Because of this problem the emphasis here will be on a reduced form of (1) and (2), namely

(3) $D = D(U,K,C)$

where D is now length of completed spells. Unfortunately, this introduces some ambiguity into both the expected signs of the variables and the interpretation of the coefficients. For example, a high skill level would reduce duration by

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and the Phillips Curve," American Economic Review, vol. 60 (December, 1960), pp. 847-62; or S. A. Lippman and J. J. McCall, "The Economics of Job Search: A Survey," Economic Inquiry, vol. 14 (June, September, 1967) pp. 155-89, pp. 347-68.

[45] Stephen Marston, "The Impact of Unemployment Insurance on Job Search," Brookings Papers on Economic Activity (1975) No. 1, pp. 13-60.

making more vacancies accessible but might also increase duration by raising the reservation wage. Furthermore, a positive coefficient on marriage, for example, may be due either to married workers being more eager to find work (and thus reducing their asking wage) or to them being more attractive to employers and hence receiving more or better offers.

The dates employed are those in the National Longitudinal Survey.[46] Information from two survey periods are employed, 1969-1970 (collected in 1970) and 1970-1971 (collected in 1971). These periods were chosen because they are the first for which complete information is available on every job held and on each spell of unemployment. The sample was limited to whites and blacks (other nonwhites being excluded). The analysis is limited to out-of-school youth.[47]

In the analysis of the reduced form equation (3) the unit of observation is each completed spell of unemployment which occurred between 1969-1971. This procedure insures that we are measuring the theoretically proper dependent variable.[48] In addition, only spells associated with job changing, entrance,

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[46]The NLS data, for reasons not yet understood, report unemployment rates below those reported by the monthly Census and hence may seem a poor data source for examining unemployment. However, the racial ratios are very similar to those in the Census. For example, the October 1970 Current Population Survey reported racial ratios for out-of-school male 18-19 year olds of 1.84 and for 22-25 year olds 1.65. The NLS rations for the same period were 1.88 and 1.66, respectively.

[47]No observation of a spell is included if it occurred while the youth was in school. However, because observations are pooled, as will be explained below, some youth in the sample were in school during some portion of the period.

[48]Every spell which occurred any time between the 1969 and 1971 interviews is included. The only exceptions are spells in progress at the time of the 1971 interview. Those are excluded because information on their length is unavailable. Thus the measure employed here seems to be the closest possible approximation of the theoretically appropriate variable. There is still some bias since a very long spell, say one which began at the time of the 1969 interview, would be excluded. However, the fact that the sample period is over two years long makes this bias of little practical importance since there is plenty of opportunity to capture long spells.

or re-entrance into the labor market are included. Thus spells associated with temporary recalls are excluded. Whatever the importance of this class of spells for adults they are not important for youth[49] and they are excluded because of expected differences in the pattern of job search.

The independent variables are defined as follows:[50]

Skills and Personal Characteristics

AGE: Age in years, measured at the beginning of the year.

KWW: This is the score on a knowledge of the world of work test administered by the interviewers. In addition to the possible direct importance of such a measure in explaining ability to find a job, it is also a good proxy measure of intelligence.

EDUCATION: Years of education, measured at the beginning of the year.

DEPEN: Number of dependents, excluding the wife, measured at the beginning of the year.

DRAFT: "1" if eligible for the draft, "0" if not, measured at the beginning of the year.

MAR: "1" if married at the beginning of the year, "0" if not.

Search Cost Variables

UI: This is the fraction of wages replaced by unemployment insurance. The variable is (Total UI dollars received)/(Hourly wage of most recent job x 35 x weeks unemployed that year).[51] It is measured with error since data on the amount received is available for the entire year but not for each spell.

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[49] See Martin Feldstein, "The Importance of Temporary Layoffs, an Empirical Analysis," Brookings Papers on Economic Activity (1975) No. 3, pp. 735-45. In the entire sample there were only 68 affirmative responses in the 1969-1970 period to the question "Did you experience a spell of unemployment while holding this job?"

[50] In these definitions the term "year" should be understood to refer to the interview period, either 1969-1970 or 1970-1971. When a variable is described as measured at the beginning of the year this means at the time of the 1969 interview if the spell occurred during 1969-1970 and at the time of the 1970 interview if the spell was in the 1970-1971 period.

NONWG: This is nonlabor income (excluding transfer payments) received during the year. The availability of such income should permit, and perhaps encourage, more extended search.

Demand Variables

U: The local unemployment rate, measured in tenths of a point.

DU: The local unemployment rate at the end of the year minus the rate at the beginning of the year.

Other Variables

LINE: "1" if the spell began when the respondent left a previous job and if upon leaving the respondent had the next job lined up in advance, "0" otherwise.

LAYOFF: "1" if the spell began with a layoff from a previous job, "0" otherwise.

OLF: "1" if during the spell of unemployment time was also spent out-of-the-labor force, in addition to time unemployed, "0" if not. Time out-of-the-labor force spent in school or in the armed forces is not included in this measure.

The results of the duration equation[52] are presented in Table VIII. The two racial equations were tested for equality via the Chow test and the hypothesis of equality was rejected at the .05 level (F = 2.3). In addition, race was fully interacted with the vairables in a pooled equation to test for significant differences among specific coefficients. The coefficients of DRAFT, U, and LINE are significantly different at the .05 level and the coefficients of AGE differ at the .10 level.

The interpretation of these coefficients must be tempered by the realization that the equation is a reduced form. Keeping this limitation in mind, there are several interesting results. Time spent out of the labor force, neither working nor looking, reduces the duration of unemployment. This is plausible since many

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[52]These results as well as those below are limited to youth out-of-school and not in the entry period.

TABLE VIII

DURATION EQUATIONS
(Standard Errors)

Variable	Black	White
AGE	0.511 (0.206)	0.006 (.174)
KWW	-0.024 (0.079)	-0.013 (0.059)
DRAFT	5.141 (1.474)	0.055 (0.029)
DEPEN	0.402 (0.449)	-0.092 (0.601)
EDUCATION	0.535 (0.255)	0.223 (0.210)
MAR	-3.246 (1.393)	-1.577 (1.049)
LAYOFF	3.243 (1.106)	0.643 (0.841)
LINE	2.314 (1.893)	-2.598 (1.353)
U	-0.003 (0.028)	0.073 (0.022)
DU	0.055 (0.031)	0.055 (0.029)
UI	-0.271 (0.466)	0.268 (0.585)
NONWG	0.001 (0.007)	0.003 (0.001)
OLF	-3.303 (1.589)	-2.385 (1.059)
CONSTANT	-10.140	1.600
N	247	412
F	3.421(13,233)	2.44(13,398)
SE	8.395	7.952
R^2	.113	.043

jobs are found through word of mouth, and the word can easily be passed to someone not actively looking. Thus for youth the distinction between time unemployed and time out-of-the labor force can be tenuous. The impact of unemployment insurance seems marginal, and coefficients in both equations are insignificant and of opposite sign. However, as noted above, this variable is measured with potentially serious error and there are additional possible biases in its use.[53] A change in the unemployment rate (DU) has an identical impact on black and white duration, although the level of unemployment has opposite racial effects.[54] Finally, non-labor income increases the duration of spells for both races, although the effect is statistically significant only for whites.

A useful technique for summarizing the results of these equations is to decompose the differential into portions due to differences in the values of the variables of the two groups and differences due to the structure of the equations. This decomposition is reported in Table IX.[55] In this decomposition negative items are favorable to whites. The results indicate that difference in the structure of the equations implies that blacks have durations which are 1.200 weeks longer than they would be were they treated or behaved as whites. Given that their actual duration is 7.915 weeks they suffer durations

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[53] A spurious positive correlation between duration and benefits is caused by the fact that the NLS data do not tell us whether a worker is covered, only that he received benefits. Most states have waiting periods, and thus a minimum spell length is required for even a covered worker to receive benefits.

[54] In cross-sectional data the level variable may capture long-run equilibrium behavior. This is because of the very high correlation over time of an area's unemployment rate. Thus in this equation the level unemployment rate may serve as a proxy for structural characteristics of the local economy. Since high unemployment areas also tend to have high hourly wages the welfare interpretation is ambiguous.

[55] The formula is the same as that used in the earlier decomposition of wages.

TABLE IX

DECOMPOSITION OF UNEMPLOYMENT DURATION

Variable	Difference Due to Characteristics	Difference Due to Equation Structure
AGE	-.003	-10.988
KNW	-.086	.297
U	.018	3.559
DU	.116	0
DEPEN	.057	-.513
EDUCATION	.258	-3.294
UI	.014	.079
DRAFT	-.002	-1.087
LAYOFF	.048	-1.152
NONWG	.124	.021
LINE	-.015	- .455
MAR	-.012	.581
OLF	-.114	.012
	.403	-12.940
CONSTANT		11.740
		-1.200

which are 17% "too long." On the other hand, black characteristics are slightly "favorable." In particular, they have less education and non-wage income than do whites, both of which increases white duration. The sum of these favorable characteristics reduces their durations relative to whites by .403 weeks and this, when subtracted from the differential due to equation differences, leads to an actual differential of .797 weeks.

Spells of Unemployment

I will now examine spells of unemployment and seek to disentangle the effect of differences in endowments on the one hand and differences in treatment and behavior on the other. The most important conclusion which emerges from this effort is that, unlike the case of duration, the racial differences in spells of unemployment are largely due to either differences in background characteristics or behavior, and apparently not to differences in treatment.

The natural approach to this question is to estimate separate racial equations for the probability of a spell of unemployment and to compare the equations. However, it is important to distinguish between quits and layoffs. The same variable, for example the unemployment rate, has an opposite expected impact upon quits and layoffs and, therefore, we will estimate a separate model for each.

Not all quits and layoffs lead to unemployment. In both instances, though presumably more so for quits, a separation can be followed by immediate acquisition of another job. Furthermore, the separation can also be followed by movement out-of-the labor force. The distribution of quits and layoffs into these categories is shown in Table X. The figures in the table are the average of the 1969-1970 and 1970-1971 quit and layoff rates for youth-out-of-school in those periods and the data reflects all job changes which occurred in those periods.

TABLE X

ANNUAL QUIT AND LAYOFF RATES

	Whites		Blacks	
	Rate	Percent	Rate	Percent
Layoffs				
(1) Resulting in Unemployment	.073	46.2	.096	50.5
(2) Resulting in Labor Force Withdrawal	.011	6.9	.010	5.2
(3) Followed by Another Job	.074	46.8	.084	44.2
(4)	.158	100	.190	100
Quits				
(5) Resulting in Unemployment	.072	22.1	.117	34.0
(6) Resulting in Labor Force Withdrawal	.035	10.7	.033	9.5
(7) Followed by Another Job	.218	67.0	.194	56.3
(8)	.325	100	.344	100

Note: The rates are averaged for two periods, 1969-1970 and 1970-1971. Only out-of-school youth are included. Percentages may not add up to 100 due to rounding.

As is apparent from lines 4 and 8, both the overall layoff and the quit rates are higher for blacks than whites, the quit rate being 7% higher and layoff rate 20% higher. These results are not surprising; we expect to find blacks laid off more frequently than whites both because of discrimination and because of lower endowments. Furthermore, the poorer jobs held by blacks would lead them to quit more frequently. What is surprising about this table is that if one restricts attention to layoffs and quits resulting in unemployment, then while the differential remains roughly the same for layoffs (23%) it widens considerably for quits to 62% higher than the white rate. Evidently while blacks do not quit in general much more frequently than do whites, they are considerably more prone to quit into unemployment and less prone to quit and immediately find another job. It remains, of course, to see if this pattern persists after controlling for differences in personal characteristics.

Parenthetically, it is also interesting to note that this table supports the common view that most voluntary job changing does not result in unemployment. However, it is surprising to learn that a considerable fraction of layoffs (46.8% for whites and 44.2% for blacks) are also immediately followed by another job.

Our next step is to estimate quit and layoff models. In the analysis which follows attention will be limited to only those quits and layoffs followed by seplls of unemployment. The quit equations can be motivated by search theory, human capital theory, or some amalgam of the two. Accumulation of specific human capital and high wages should, holding the other variables constant, reduce the probability of quitting. Potential other opportunities, indexed in this model by the unemployment rate, should increase the probability of quitting. Personal characteristics, such as marital status, dependents, and age, have an ambiguous effect depending upon their impact on the individuals' needs and taste for risk.

The variables in the quit equation which are new are TENURE, which measures years on the job, UNION, a dummy variable which takes on the value of "1" if wages are set by collective bargaining and "0" otherwise, and WAGE, the hourly wage measured in cents. In addition, a variable is introduced to test the hypothesis that one source of black quitting is discrimination on the job. The variable WTDIF is constructed by fitting a wage equation for whites, estimating what each individual would receive, and taking the difference between that value and the actual hourly wage.[56] A positive value for blacks would indicate a wage below that predicted by the white equation and may be correlated with quitting.

In the layoff model the expectation is that specific human capital and a high skill level will reduce the probability of a layoff while increases in the unemployment rate should increase the probability. Temporary layoffs are again excluded from the analysis.

In all the equations the dependent variable is dichotomous and takes on the value of "1" if a quit or layoff followed by unemployment occurred during the year and "0" otherwise.[57] As was the case in the duration analysis, the sample is pooled for two years, 1969-1970 and 1970-1971, and only youth out of school at the beginning and end of the period are included.

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[56] The auxiliary equation was:

$$\ln(\text{hourly wage}) = B_o + B_1\text{EDUCATION} + B_2\text{KWW} + B_3\text{TENURE} + B_4\text{UNION} + B_5\text{TENURE}^2 + B_6\text{EXXP} + B_7\text{EXXP}^2 + B_8\text{MAR}$$

[57] The incidence of multiple quits and layoffs during one year is very low. During 1969-1970 only 1.2% of whites and .7% of blacks experienced more than one layoff and for quits the figures are 1.1% and 1.4%.

The equation was estimated to fit the logit functional form[58]

$$P = 1/1+e^{-BX}$$

where P is the dichotomous dependent variable, X is the vector of explanatory variable and B are the estimated parameters. A maximum likelihood estimation procedure was employed. The results of the logit quit and the layoff equations are presented in Table XI. Predicted probabilities for the mean values of the variables are provided in Table XII. The story told by this equation is somewhat surprising.[59] The uncontrolled gap for layoffs (Table X) narrows but the gap remains. Thus even after controlling for personal characteristics, demand, experience, and job skills young black men still face a higher layoff probability, but the gap is not strikingly large. With respect to quits we find the surprising result that the gap widens. Blacks seem considerably more pronte to quit into unemployment.

In terms of the mechanics of the equations the key variables are AGE, EDUCATION, TENURE, and WAGE. Increases in the values of the first three variables all decrease the probability of white quits but increase the probability of black quits. The only offset is WAGE in which a high wage decreases the probability of black quitting more so than is the case for whites.

The variable employed to test for quitting due to differential treatment, WTDIF, performs as expected both in its sign and significance. This is interesting because it lends support to the notion of shifts in supply as well as demand curves; however, the magnitude of the effect is small.

The explanation for the quit differential is elusive. The differential in overall quits, as opposed to quits into unemployment, is considerably smaller

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[59]Ordinary least squares estimates of linear probability models produce equivalent results. For example, for the quit equation the black values substituted into the white equation produce a predicted quit rate of .049.

TABLE XI

QUIT AND LAYOFF EQUATIONS
(absolute value of t statistics in parentheses)

	Quit		Layoff	
	Black	White	Black	White
CONSTANT	-2.178 (2.074)	0.208 (0.185)	-1.740 (1.918)	-0.461 (0.584)
AGE	0.055 (1.033)	-0.082 (1.499)	-0.026 (0.679)	-0.003 (0.089)
EDUCATION	0.153 (1.735)	-0.148 (1.741)	-0.033 (0.579)	-0.198 (4.418)
TENURE	-0.037 (0.584)	-0.619 (4.736)	-0.243 (2.881)	-0.514 (6.491)
DRAFT	0.556 (1.854)	-0.338 (1.108)	0.255 (0.839)	0.087 (0.323)
DEPENDENTS	0.025 (0.265)	-0.157 (1.262)	-	-
MAR	0.368 (1.044)	-0.324 (0.923)	-0.428 (1.818)	-0.449 (2.252)
UNION	0.293 (0.527)	0.045 (0.091)	-0.714 (2.483)	0.428 (2.215)
WAGE	-0.016 (2.365)	-0.001 (0.248)	0.002 (2.504)	0.0001 (0.135)
KWW	0.034 (1.494)	0.040 (1.937)	0.0006 (0.036)	-0.003 (0.297)
U	-0.001 (0.248)	0.010 (1.943)	0.002 (0.325)	0.022 (4.986)
DU	0.015 (1.787)	0.010 (1.811)	0.038 (4.061)	0.012 (2.548)
WTDIF	0.014 (2.143)	0.0006 (0.100)	-	-
- 2 *log likelihood	554.318	807.896	550.046	989.624

TABLE XII

PREDICTED PROBABILITIES OF QUITS AND LAYOFFS FOR BLACKS

	White Equation	Black Equation
Quits	.034	.120
Layoffs	.078	.089

and hence (as we will see below) the structure of a general quit equation may be more similar across the races than the unemployment quit equation. Thus blacks may quit not much more frequently than whites but they will have difficulty lining up their next job. This issue will be explored below but now is a good point to summarize the results of the entire system of equations.

Table XIII summarizes the results of the several duration and spell equations and indicates how much additional unemployment can be attributed to each of the divergences between the actual black values and the value predicted by each of the white equations. As is apparent in each instance -- quits, layoffs and duration -- blacks experience more unemployment than they would had they been treated (or behaved) like whites. The difference in quit behavior accounts for nearly half of the additional unemployment, followed in importance by layoffs and duration. In the period 1969-1971 the average annual weeks of unemployment for out-of-school youth was 4.145 for blacks and 2.252 for whites, thus the differential was 1.893 weeks. Column 4 of Table XIII shows the fraction of the total differential accounted for by the difference between actual values and those predicted by the white equations. This calculation implies that 55% of the total differential is due to differences in behavior or treatment while the remaining 45% can be explained by differences in personal characteristics.

Behavioral Differences

The lesson of this analysis thus far is that 55% of the disparity between blacks and whites in annual weeks of unemployment is unexplained by differences in background characteristics. This is analogous to the earlier analysis of wage differentials and the same warning about the legitimacy of the background characteristics in "justifying" the differential applies here. In the case of unemployment the percentage differential is larger than was true of wages and fraction unexplained by background characteristics is also large. The question remains about whether the unexplained differential is due to differences in treatment

TABLE XIII

SUMMARY OF RACIAL DIFFERENTIALS
FOR THE FULL SYSTEM

	(1)	(2)	(3)	(4)
QUITS	.096	.034	.490	25.8%
LAYOFFS	.117	.078	.308	16.2%
DURATION	7.915	6.715	.255	13.4%
				55.4%

Note:

(1): Actual Values for Blacks.

(2): Predicted Values Using White Equations and Black Characteristics.

(3): Extra Annual Weeks of Unemployment Due to Divergence of (1) and (2), Holding Remaining Variables Constant.

(4): Fraction of Annual Differential in Annual Weeks of Unemployment Accounted for by (3).

or to differences in behavior.

It is, of course, very difficult to directly resolve this because we rarely observe directly the behavior of youth in the labor market or their treatment by firms. In investigations of housing discrimination it is common to have blacks and whites try to rent or buy housing and to compare the treatment accorded them. A common finding is that agents, landlords, and owners discriminate against blacks,[60] but such investigations are rare in the case of employment. The success of many Title VII lawsuits is suggestive and in a very interesting direct experiment Phyllis Wallace had young black women apply for jobs and record their experience.[61] Evidence of discrimination emerged from this experiment, but the sample size was very small. In the absence of direct investigation indirect and inferential tests are all we have and this section presents three approaches. I will first discuss possible behavioral causes of the longer duration of spells blacks experience, and I will then take up the issue of quits. Finally, I will examine the general question of racial differences in aspirations.

The differential in the duration of completed spells of unemployment may be due to difficulties blacks face in finding jobs or to racial differences in the reservation wages. Differences in reservation wages would proxy behavioral differences and would cause longer durations. If young blacks have an "unreasonably" high reservation wage[62] or if their reservation wage declines less

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[60] The New York Times, June 28, 1976

[61] Phyllis Wallace, Pathways to Work (Lexington, Mass.: D.C. Heath), 1975.

[62] A too high reservation wage might occur because blacks, perhaps due to inadequate information, over-value their potential earnings. Another possibility is that blacks, perhaps due to changing attitudes, are refusing to take jobs which offer them wages below that which comparable whites would earn. This shift in the supply curve could also explain the equalization of earnings found in earnings equations since these are actually reduced forms of supply and demand equations.

rapidly than it does for whites in the face of unemployment[63] then the consequence would be longer duration.

Table XIV presents a two-stage least squares estimate of the reservation wage equation for youth unemployed at the time of the 1970 or 1971 surveys. All of the variables have been defined previously, with the exception of EXXP, which is (AGE-EDUCATION-5). This is the standard experience variable employed in many earnings functions. The sample is limited to yout out-of-school at the time of the unemployment who were unemployed for reasons other than temporary layoff, waiting for a new job to begin, or a labor dispute.

The results in Table XIV imply that little of the observed difference in duration can be attributed to differences in reservation wage formation. The coefficient on duration is only 5¢ per week apart for the two races.[64] When black mean values were substituted into the white equation the predicted reservation wage is $2.41 an hour, slightly higher than the actual value of $2.38. Thus the white and balck reservation wage structures are essentially the same and there is no evidence that black youth unemployment is due to unrealistically high reservation wages.

A second important source of behavioral differences lies in the quit rates. As we have seen, young blacks quit into unemployment more frequently than do whites and this accounts for an important fraction of the unemployment differential. While on its face this seems clear evidence of behavioral differences the

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[63] In fact, most studies of youth find they take the first job offered. However, the reservation wage mechanism might operate through patterns of search. If youth have information about the characteristics of firms they may search only among firms whose entry wage is equal to or better than their reservation wage.

[64] The positive, though insignificant, sign on the coefficients is contrary to that predicted by theory. Evidently for this sample duration has no effect on reservation. When the system was estimated using time not working (i.e., duration of unemployment plus time out-of-the labor force) the coefficient was 2.8, with a standard error of 3.7 for blacks and -4.6 with a standard error of 7.8 for whites.

TABLE XIV

TWO STAGE LEAST SQUARES RESERVATION WAGE EQUATIONS
(Standard Errors)

	WHITES	BLACKS
DURATION	2.471 (6.411)	7.025 (4.384)
MAR	69.296 (28.99)	-26.195 (36.011)
LINE	-100.162 (154.009)	3.994 (82.679)
DRAFT	41.385 (24.989)	-29.418 (27.549)
OLF	-37.601 (21.958)	55.067 (27.565)
EXXP	22.149 (16.245)	6.451 (10.750)
EXXP2	-.890 (1.495)	-.163 (.805)
UI	-9.601 (8.735)	32.963 (21.073)
KWW	.215 (1.576)	3.538 (2.228)
DEPEN	33.625 (20.259)	10.155 (13.984)
EDUCATION	21.507 (5.121)	-2.626 (7.845)
CONSTANT	-95.572 (70.105)	64.831 (105.36)
R^2	.511	.316
F	5.71(11,60)	1.88(11,45)
S.E.	74.7739	73.846
N	72	57

Note: The dependent variable is the hourly reservation wage in cents.

issue is not settled. It is not true that young blacks quit jobs more frequently than do whites. We saw in Table X that the overall quit rate of young black men is not appreciably higher than that of whites. I estimated via ordinary least squares a linear probability model for all quits (employing the same variables found in Table XI) and when black mean values were substituted in the white equation the predicted probability of a quit was .280 higher than the actual black mean of .264.[65] This stands in contrast with both the logit and the OLS results for quitting into unemployment.

Thus young black men are not especially quit prone. Rather, it is that their quits are more likely to lead to unemployment than those of whites. One possible explanation might be found in the motives for quitting, but Table XV seems to dispel this possibility. There is a clear difference in the reasons for quitting for those quits followed and not followed by unemployment. For example, the category "found a better job" is more important (for both races) for quits not followed by unemployment than by those which are. However, there do not seem to be major racial differences. For example, the nature of the job was cited by 51.9% of the blacks and 50.79% of the whites who quit into unemployment. Blacks do cite wages more often while whites cite working conditions but the impact of this is unclear (recall that my WTDIF variable was significant but unimportant in the quit equations).

It thus does not appear that quitting behavior itself differs across races, but rather that the outcome of a quit differs. That is, blacks and whites quit at essentially the same rate, share a similar "quit equation" and quit for the same reasons. What differs is the outcome, a quit being more likely to lead to unemployment for blacks than whites. I will return below to a discussion of why this should be so, but for now I will turn to a third test for behavioral differences, aspirations.

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[65] This predicted value is below the mean in Table X because the table included multiple quits while the dependent variable here is simply dichotomous.

TABLE XV

REASONS FOR QUITTING

	Blacks	Whites
Followed by Unemployment		
Nature of Job		
Hours/kind of work/conditions/ interpersonal/location	36.8%	44.6%
Wages	15.1%	6.1%
Found Better Job	10.4%	9.1%
Health	8.5%	14.4%
Other*	29.2%	25.7%
Not Followed by Unemployment		
Nature of Job		
Hours/Kind of work/conditions/ interpersonal/location	22.3%	20.5%
Wages	17.6%	11.6%
Found Better Job	26.8%	24.0%
Health	6.0%	4.4%
Other*	26.7%	38.9%

* Other includes return to school, military, prison, family and personal, and other.

Young blacks may have unrealistically high aspirations. This might be caused by an "over-sensitive" antipathy to menial work caused by historical experience or by a misreading of the impact of racial process upon the continued importance of a training or skills. Neither hypothesis seems very convincing but the idea is worth exploring because if aspirations are too high then this could lead to inefficient job search and higher than necessary unemployment.

The NLS asked youth in the sample what jobs they would like to have at age 30 and the responses were assigned Duncan scores.[66] This then provides a metric for aspirations and we can regress aspirations upon background characteristics and compare the equations across races. If the black structure differs from the white in a direction of higher aspirations after background and compare the equations across races. If the black structure differs from the white in a direction of higher aspirations after background has been controlled then this may be an indication of a behavioral difference.

Table XVI contains the regressions. The dependent variable is the Duncan score of the occupation desired at age 30 and all the dependent variables have been previously defined. These equations, although they differ in detail, provide no evidence of a racial difference. A Chow test (F = .46) rejects the hypothesis that the equations differ and when the means of the variables for blacks are inserted into the white equation the predicted value is 37.7, trivially different from the actual value of 38.5. Thus this test provides no support for the notion that young blacks have unrealistically high aspirations.

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[66] Duncan prestige scores are a standard way of scaling occupations. They are based on a weighted combination of the mean education and income of each occupation.

TABLE XVI

OCCUPATION DESIRED AT AGE 30

(STANDARD ERRORS)

	BLACKS	WHITES
AGE	-.508 (.427)	-.408 (.233)
KWW	.385 (.183)	.251 (.106)
ED	3.962 (.576)	4.273 (.314)
TRAIN	.070 (.048)	.017 (.019)
HEALTH	.179 (5.936)	-4.799 (2.423)
CONSTANT	-2.558	-4.187
$\bar{R}^2$	.270	.250
$\bar{X}$	38.52	47.61

The dependent variable is the Duncan score of the occupation desired at age 30 (as specified in 1970). The sample is limited to youth out-of-school between 1969 and 1970.

The Chow test F = .46.

The Role of Contacts

One possible explanation of the finding that young blacks, while no more likely than young whites to quit, are more likely to have a quit result in unemployment may be found in differential access to job contacts. Having decided to leave a job whites may simply be more able than blacks to line up the next job without experiencing unemployment. This may also be an explanation of the difference in the length of durations. Most jobs are found through personal contacts[67] and if blacks have fewer personal contacts than whites they may experience difficulty locating jobs. Statistical controls for personal characteristics may fail to capture this important "unobservable" and since personal contact networks help people of every education and skill level land jobs it is unlikely that the effect of this variable would be fully captured by other measured variables. The consequence may be that blacks, even after controlling for personal characteristics, may still experience a harder time than whites in finding a job.

Interviews I conducted in two Boston communities, East Boston and Roxbury, lend some support to this hypothesis. When job finding methods are examined by race in Table XVII we see that the pattern differs for the two groups. Whites and blacks make essentially equal use of friends, but whites use parents and relatives twice as frequently as blacks. As a result while whites find 57% of their jobs via personal contacts blacks find only 33% in this manner. Furthermore, these interviews also show that primary jobs are more frequently found through parents and relatives while secondary jobs are best found via friends. The relative inability of blacks to use parents and relatives would thus seem to handicap them in their search for primary employment. Presumably the reasons that blacks are less able than whites to use parents and relatives to help find jobs is that legacy of past (and current) discrimination has prevented the parents from being in a position to help.

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[67] Mark Granovetter, Getting a Job (Cambridge: Harvard Univ. Press), 1975.

TABLE XVII

JOB FINDING METHODS BY RACE

	Whites	Blacks
Friends	28.2%	29.2%
Parents, Relatives	29.0%	14.6%
Ads, walk-in	25.0%	14.6%
Institutions*	11.2%	23.0%
Other	6.6%	18.6%

*Institutions include schools, private employment agencies, The Employment Service, and Manpower programs.

As a result of their inability to use contact networks as effectively as whites, blacks are forced into greater reliance on formal institutions such as schools, employment agencies, and manpower programs. Over twice the proportion of blacks than whites use these institutions. None of these institutions are notable for their success in placing clients in good jobs. Indeed, the originators of dual labor market theory developed their ideas by observing that the employment service and manpower programs seemed to recycle people through low wage unstable jobs.

The finding that blacks are unable to make effective use of personal contacts is not new. For example, Lurie and Rayack reached the same conclusion in their study of a labor market in Connecticut.[68] There is, however, also evidence to the contrary. In the NLS blacks and whites report essentially the same pattern of job finding. For youth out-of-school in 1969 51.3% of the blacks and 44.2% of the whites found their jobs through personal contacts.[69] It still may be that personal contact referrals are more efficacious for whites, that they operate more quickly due to the better access of white adults to job contacts. Although plausible this is still speculative and we cannot regard the issue of job contacts as a settled issue.

Another possible explanation of the quit patterns may lie in differential access to illegal activities. If the ghetto economy contains more illegal "jobs" than does the white economy then blacks who quit and show up in official

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[68] Melvin Lurie and Elton Rayack, "Racial Differences in Migration and Job Search, A Case Study," Southern Economic Journal (July, 1966).

[69] Direct contact was employed by 24.9% of the blacks and 22.8% of the whites. Newspaper ads were employed by 24.9% of the blacks and 22.8% of the whites.

statistics as unemployed may in fact be "working." Thus the quits into unemployment differential may be misleading.

In my East Boston and Roxbury interviews there was evidence of illegal activities (unexplained periods of time, unaccounted income) but no evidence that such activities were more frequent in Roxbury than East Boston. Other observers, however, reach the opposite conclusion. For example, on the basis of extensive interviews in Watts and East Los Angeles Paul Bullock concluded that "The subeconomy is probably the greatest single source of market income for youth in the center city."[70] To the extent that this is true these activities can explain the quit patterns and they reduce normal employment because of the greater income possibilities and excitement of illegal activity. However, it should be understood that the existence of this sector cannot explain longer term economic pathologies in inner city labor markets. Illegal activities can best be conceptualized as the activities of youth before they are ready to settle down, as a form of secondary employment. Crime rates drop sharply with age, and youth who are ready to settle down will do so in normal primary jobs if those jobs are available. It is the unavailability of these jobs, not the existence of an alternative sector, which explains the difficulties of black youth.

SUMMARY

The labor market situation of young blacks has improved in recent decades in a number of respects, but their relative unemployment and labor force participation rates have deteriorated. In this report I sought to understand this

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[70] Paul Bullock, Aspiration vs. Opportunity, "Careers" in the Inner City (Ann Arbor: Institute of Labor and Industrial Relations), 1973, p. 99.

development by employing data on local labor markets and on individuals. The major conclusions were:

(a) The employment of black youth has increased but it has not done so rapidly enough to compensate for the large growth in the size of black cohorts. Thus unemployment has risen.

(b) Two aspects of local labor markets may help explain the sluggish growth in black employment. Black employment is more sensitive than that of whites to the industrial composition of SMSA jobs and to competition from adult women. Furthermore, that sensitivity has increased over time. On the other hand, there is no evidence that the suburbanization of jobs has harmed black youth.

(c) Black youth participation rates show larger discouraged worker effects than do white youth.

(d) The individual data show that 55% of the racial differential in annual weeks of unemployment cannot be explained by differences in background characteristics. Roughly half of this unexplained portion is due to the greater frequency of black quits into unemployment with the remainder divided equally between layoffs and duration of spells.

(e) There is no evidence that differences in behavior account for this unexplained differential. Neither analysis of reservation wages, quit equations, reasons for quitting, or aspirations reveal such differences.

(f) One obvious source of the differential is discrimination. In addition I speculated about, but reached no firm conclusion, the role of job contacts and the illegal economy.

What story emerges from these findings? The two questions which the analysis sought to answer were (a) why is the black youth unemployment rate higher today than that of whites? and (b) why has the situation deteriorated over time? With respect to the first question, the SMSA data tell us that employers regard adult women as a competing group with young blacks, while evidently white youth do not face this competition. Furthermore, black youth are more dependent on a favorable industrial structure. Both observations are consistent with continued discrimination, assuming that the "quality" of black and white youth labor is roughly comparable. The analysis of the NLS data tells us, in turn, that "quality" differences can account for only roughly 50% of the unemployment gap. I was unable to identify important behavioral differentials, and we are thus left with an important continuing role for racial discrimination.

Understanding the deterioration of the situation over time, however, runs up against the finding that the force of discrimination has been weakening. This is shown both in the analysis of the wage data and by comparing the 1960 and 1970 employment equations. Here, then, demographics plays a role. Imagine, for example, that employers have a rule of thumb: for every X whites they hire they will hire Y blacks. In 1960 the ratio might be one in ten, in 1970 one in eight. The improvement in the ratio is in part the result of diminished discrimination. However, the rule of thumb has not improved rapidly enough to compensate for the more rapid growth of the black relative to white cohort. The consequence is a reduction in black relative to white employment to population ratios and, depending on the supply behavior, an increase in black relative to white unemployment rates.

This explanation can, it must be understood, only be offered in a tentative fashion. First, it presumes that enough firms to make a difference hire both black and white workers since in segregated firms no rule of thumb is necessary. One might question how many youth work in integrated firms and there is no good evidence on this. However, Flanagan's study of Equal Employment Opportunity

Commission tapes for Chicago in 1967 does show that 67% of firms in the sample had an integrated workforce.[71] However, this sample was limited to firms required by law to report to the EEOC and many of the small neighborhood firms in which youth find employment were doubtlessly missed. Second, the argument still requires an explanation of what determines the rule of thumb and how it changes over time.

Important additional unresolved questions remain. Interpreting the findings of the SMSA analysis requires further work. In what industries and under what circumstances do adult women compete with young blacks? Why precisely is black youth employment more sensitive to industrial structure? The individual level data has also raised some unresolved questions, particularly with respect to quit rates.

More generally, it must be understood that the problem of high black youth unemployment rates is not simply a characteristic of the youth labor market. As black youth age their unemployment rates decline and begin to reach the levels of black adults, but these levels are in turn much higher than those of white adults. This situation persists even for adults who entered the labor market during the late 1960's, the heyday of the "new labor market." For example, in 1976 the unemployment rate of 25-34 year old white males was 5.6% and for white females 7.6%. The rates for blacks of the same age was 11.0% and 13.0%. The situation of black youth thus cannot be understood without examining the persistence of racism throughout the labor market.

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[71]Robert Flanagan, "Racial Wage Discrimination and Employment Segregation."

Employment to Populations Ratios
(t statistics)

	WHITE MEN	BLACK MEN	WHITE WOMEN	BLACK WOMEN
1970				
Q/P	.7660 (.67)	.0125 (.69)	-.3915 (.33)	.0691 (2.97)
ED16	.0439 (2.10)	.0258 (2.39)	-.0143 (.49)	.0030 (.24)
YOUFRAC	.5454 (2.70)	.5368 (3.52)	.4345 (.53)	.0382 (.08)
WAGE	-.3867 (2.55)	-.5648 (3.43)	1.2865 (3.4986)	.0166 (.09)
WOMENWG	.3408 (1.53)	.1862 (1.88)	-.0480 (.17)	.2320 (1.69)
SUB	-.0197 (.65)	.0240 (.48)	-.0062 (.19)	.0413 (.64)
SOUTH	.0004 (.009)	.0216 (.92)	-.0516 (.93)	.0108 (.28)
1960				
Q/P	-1.2055 (1.03)	.0482 (1.76)	-.1187 (.12)	.0457 (3.11)
ED16	.0876 (7.84)	.0331 (2.74)	.0274 (1.84)	.0088 (.84)
YOUFRAC	.0434 (2.98)	.0110 (.59)	.0426 (.07)	.4080 (1.20)
WAGE	.1603 (.30)	-1.4821 (4.26)	-.7170 (2.15)	-.3913 (2.62)
WOMENWG	- .2056 (.80)	.4157 (1.56)	.6452 (2.53)	.0686 (.56)
SOUTH	- .0323 (.51)	.0592 (.93)	-.0303 (.60)	-.0045 (.14)

the dependent variable is the log odds of the employment to population ratio

SOURCES OF CENSUS DATA

All labor force data refers to the civilian labor force. In the race specific variables spanish speaking persons have been excluded.

EMP, ER, LFPER, LFPNER, Table 166

ED16, Table 147 (the medians for each age group, 16 thru 19 year olds, are treated as means and the mean for the 16-19 year old range is calculated)

ED25, Table 148

POP70, Table 13

MARFRAC, Table 165

WAGE, Hours are from Table 166, Weeks Worked in 1969 from Table 167 and Income in 1969 (for 14-19 year olds) from Table 193.The hours worked is adjusted for seasonal differences via annual monthly hours reported in Employment and Earnings, Table A-7

RESDISP, SUB, Table 190

YOUFRAC, Men is from Table 187, Women from Judith Fields, "A Comparison of the Differences in Labor Force Participation Rates of Married Women in 1970 with 1940, 1950, and 1960," Journal of Human Resources, vol. xi, No. 4 (Fall, 1976), pp. 576-577

WOMENWG, Table 195 (full year workers)

UADULT, Table 165

FAMIC, Table 205

EDDOL, Census of Governments, Table 12

URBAN, City and County Data Book, Table 3

TOTAL, Per Capita Income from Table 89, Population from Table 13

FRACLFW, Table 164

MIN, Youth Employment and Minimum Wages, U.S. Department of Labor Bulletin No. 1657, 1970

the 1960 data are defined analogously to the 1970 data and their source is described in Arnold Katz, "State Minimum Wages and Labor Markets for Youth, University of Pittsburg, 1971. I have added the following additional variables

FAMIC, Table 139

YOUFRAC, Men from Table 75, Women from Bowen and Finnegan, The Economics of Labor Force Participation

ED16, Tables 103 and 102